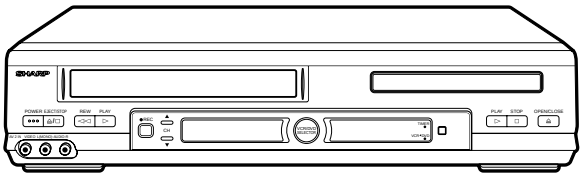
SHARP SERVICE MANUAL

S62K3DV-NC70U

VCR/DVD COMBINATION MODEL



MODELS DV-NC70U DV-NC70C DV-NC72U

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

CONTENTS

		Page
1.	IMPORTANT SERVICE NOTES	2
2.	FEATURES	4
3.	SPECIFICATIONS	4
4.	PART NAMES	6
5.	MAINTENANCE CHECK ITEMS AND EXECUTION TIME	9
6.	DISASSEMBLY METHOD	10
7.	OPERATION OF PICKUP	14
8.	ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS	15
9.	TEST MODE	38
10.	TROUBLESHOOTING	41
11.	BLOCK DIAGRAMS	52
12.	SCHEMATIC DIAGRAMS	60
13.	PRINTED WIRING BOARD ASSEMBLIES	74
14.	REPLACEMENT PARTS LIST	89
15.	PACKING OF THE SET	106

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

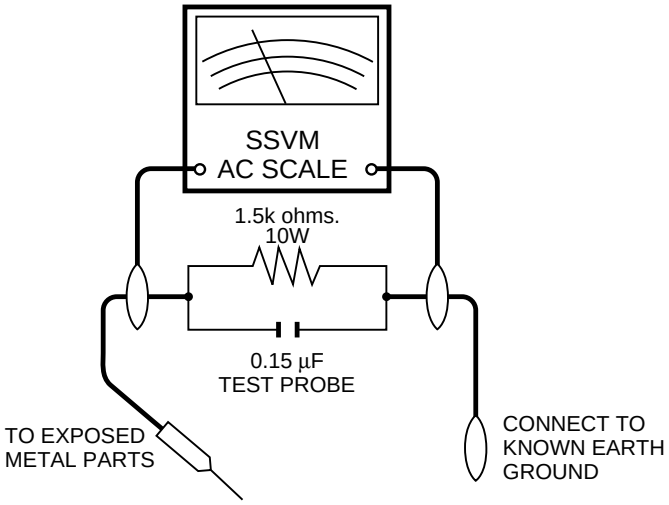
1. IMPORTANT SERVICE NOTES

BEFORE RETURNING THE VCR/DVD COMBINATION MODEL

Before returning the video cassette recorder to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the VCR/DVD combination model.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for current in the following manner.

- Plug the AC line cord directly into a 120 volt AC outlet (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit.
- Use an SSVM or VOM with 1000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor (See Diagram).
- Move the resistor connection to earth exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, etc.) and measure the AC voltage drop across the resistor. Reverse the AC plug on the set and repeat AC voltage measurements for each exposed part. Any reading of 0.45V rms (this corresponds to 0.3mA rms AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the VCR/DVD combination model to the owner.



WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electric shocks.

This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:

3.0A 125V

This symbol mark means fast operating fuse.
For continued protection against risk of fire, replace only with same type fuse F901 (3.0A, 125V).

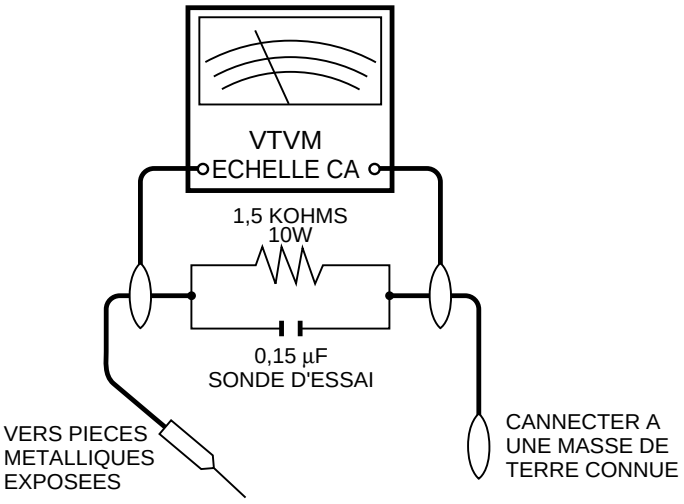
1. NOTES DE SERVICE IMPORTANTES

AVANT DE RENDRE LE VCR/DVD MAGNETOSCOPE

Avant de rendre le magnétoscope à l'utilisateur, effectuer les vérifications de sécurité suivantes.

1. Vérifier toutes les gaines de fil pour être sûr que les fils ne sont pas pincés ou que le matériel n'est pas coincé entre le châssis et les autres pièces métalliques dans le VCR/DVD magnétoscope.
2. Vérifier tous les dispositifs de protection tels que les boutons de commande non métalliques, les matériaux d'isolement, le dos du coffret, les couvercles de compartiment et ajustement ou les boucliers, les réseaux de résistance / condensateur d'isolement, les isolateurs mécaniques, etc.
3. Pour être sûr qu'il n'y a aucun risque de choc électrique, vérifier le courant de fuite de la maniére suivante.

- Brancher le cordon d'alimentation secteur directement dans une prise de courant de 120 volts. (Ne pas utiliser de transformateur d'isolement pour cet essai).
- Utiliser deux fils à pinces et connecter une résistance de 10 watts 1,5 kohm en parallèle avec un condensateur de 0,15 µF en série avec des pièces du coffret métallique exposées et une masse de terre connue telle qu'un tuyau ou un conduit d'eau.
- Utiliser un VTVM ou VOM avec une sensibilité de 1000 ohms par volt ou plus ou mesurer la chute de tension CA entre la résistance (voir diagramme).
- Déposer la connexion de la résistance à toutes les pièces métalliques exposées ayant un parcours de retour au châssis (connexions d'antenne, coffret métallique, têtes de vis, boutons et arbres de commande, etc.) et mesurer la chute de tension CA entre la résistance. Inverser la fiche CA (une fiche intermédiaire non polarisée doit être utilisée à seule fin de faire ces vérifications.) sur l'appareil et répéter les mesures de tension CA pour chaque piéce métallique exposée. Toute lecture de 0,45 Vrms (ceci correspond à 0,3 mArms CA) ou plus est excessive et signale un danger de choc qui doit être corrigé avant de rendre le VCR/DVD magnétoscope à son utilisateur.



ATTENTION: POUR REDUIRE LES RESQUES D'INCENDIE OU DE CHOC ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

ATTENTION

RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

ATTENTION: AFIN DE REDUIRE LES RISQUES DE CHOC ELECTRIQUE, NE PAS RETIRER LE COUVERCLE, AUCUN ORGANE INTERNE NE PEUT ETRE REPARE PAR L'UTILISATEUR. CONFIER L'APPAREIL A UN DEPANNEUR QUALIFIE.

Ce symbole signale à l'utilisateur la présence d'une tension non isolée à l'intérieur de l'appareil qui peut être la cause de secousses électriques dangereuses.

Ce symbole avertit l'utilisateur que des instructions importantes relatives à l'utilisation et àl'entretien se trouvent dans le manuel accompagnant l'appareil.

PRECAUTION:

3,0A 125V

Cette marque indique le fusible à action in stantansée. Pour la protection continue contre le risque d'incendie, ne remplacer que par le fusible type F901 (3,0A, 125V).

2. FEATURES

■ Common Features

- A DVD, CD player and VCR all in one.
- Simultaneous VCR recording and DVD playback.

■ VCR

- VHS Hi-Fi Stereo Sound/Double-Azimuth 4-Heads
- Built-in MTS (Multi-channel TV Sound) Decoder
- 400 Times Rewind Speed to Fast Forward and Rewind.
- EZ Set Up (Auto Channel/Clock Set Up)
- S-VHS Quasi Playback
- 19μ Clear Picture System (in EP mode)
- Simple Recording Timer
- Sharp Super Picture
- Exact Rec/Tape Remaining

■ DVD

- Plays DVD, CD (Digital Audio) discs as well as CD-R/CD-RW discs recorded in MP3 file format
- 3D Virtual Surround provides high-quality surround sound
- Digital Gamma correction and Digital Super Picture functions
- Dolby Digital*1/DTS*2 digital out capability
- High-quality digital images
- High-quality digital sound

*1 Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
*2 "DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

3. SPECIFICATIONS

Signal System	NTSC
INPUT/OUTPUT JACKS	
DVD/VCR shared output jacks	VIDEO jack: RCA Pin-jack
	AUDIO jack: RCA Pin-jack
DVD output jacks	VIDEO jack: S-Video jack
	Component Y jack: RCA Pin-jack
	Component P_B jack: RCA Pin-jack
	Component P_R jack: RCA Pin-jack
	AUDIO jack: RCA Pin-jack
	DIGITAL AUDIO IF: Coaxial digital
	AUDIO output jack: RCA Pin-jack
VIDEO input jacks	VIDEO jack: RCA Pin-jack
	AUDIO jack: RCA Pin-jack
VCR	
Video Recording System	Rotary Two-Head Helical Scanning
Number of Video Heads	4
Video Signal Standard	NTSC Color System
Audio Recording System	1 Stationary Head for Linear Audio
	2 Rotary Heads for Hi-Fi stereo
Tape Width	12.7 mm (1/2 inch)
Tape Speed	(SP) 33.35 mm/sec. (1.31 i.p.s.)
	(LP) 16.67 mm/sec. (0.66 i.p.s.) (playback only)
	(EP) 11.12 mm/sec. (0.44 i.p.s.)
Maximum Recording Time	(SP) 160 min. (T-160)
	(EP) 480 min. (T-160)

Channel Coverage	VHF 2-13 UHF 14-69 CATV 1-125
Antenna Input	75Ω
Video Input	Input level: 0.5 to 2.0 Vp-p (75Ω)
Video Output	Output level: 1.0 Vp-p (75Ω)
Audio Output (0 dB = 0.775 Vrms)	Input level: –8 dBs (47kΩ)
Audio Output (0 dB = 0.775 Vrms)	Output level: –8 dBs (1kΩ)
Hi-Fi Audio	Dynamic Range: 90 dB Frequency Response: 20 Hz-20 kHz
Memory Backup	60 seconds

DVD

DVD/VCR shared Video output	Output level: 1 Vp-p (75Ω)
Component color output	Y output level: 1 Vp-p (75Ω) P_B output level: 0.525 Vp-p (75Ω)/75% color P_R output level: 0.525 Vp-p (75Ω)/75% color
S video output	Y output level: 1 Vp-p (75Ω) C output level: 0.286 Vp-p (75Ω)
Audio output	Output level: 2 Vrms (1 kHz, 0 dB)
Video signal horizontal resolution	500 lines
S/N ratio	60 dB
Audio signal frequency characteristics	For DVD linear PCM playback: 4 Hz to 22 kHz (48 kHz sampling) 4 Hz to 44 kHz (96 kHz sampling) CD playback: 4 Hz to 20 kHz (EIAJ)
S/N ratio	CD: 100 dB, 1 kHz (EIAJ)
Dynamic range	DVD linear PCM: 96 dB (EIAJ) CD: 96 dB (EIAJ)
Total harmonic distortion ratio	CD: 0.006%
Pickup	Wave length: 650 nm Laser output: Max. 0.7 mW

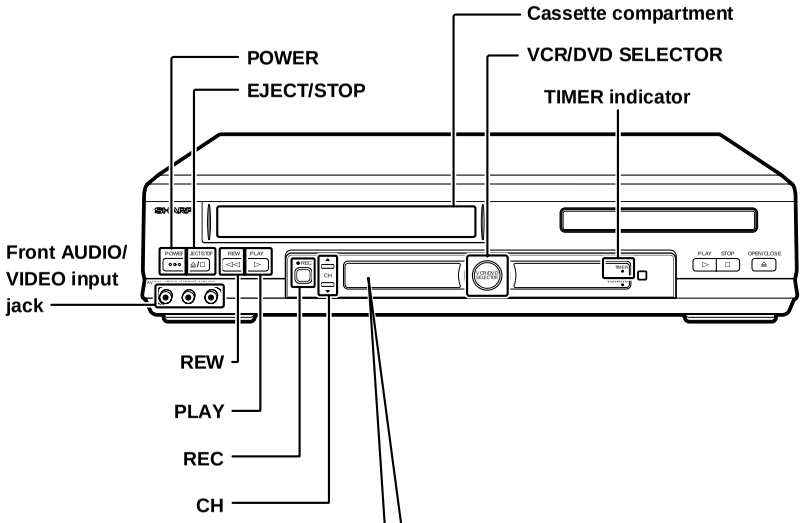
Operating temperature	5 °C to 35 °C (41 °F to 95 °F)
Storage temperature	–20 °C to 55 °C (–4 °F to 131 °F)
Power supply	120 V AC, 60 Hz
Power consumption	28 W
Dimensions	430 mm × 93.5 mm × 356 mm (W × H × D) (including attachments) (16 $^{15}/_{16}$" × 3 $^{11}/_{16}$" × 14 $^{1}/_{32}$")
Weight	4.8 kg (10.6 lbs)

Specifications are subject to change without notice.
Weight and dimensions are approximate.

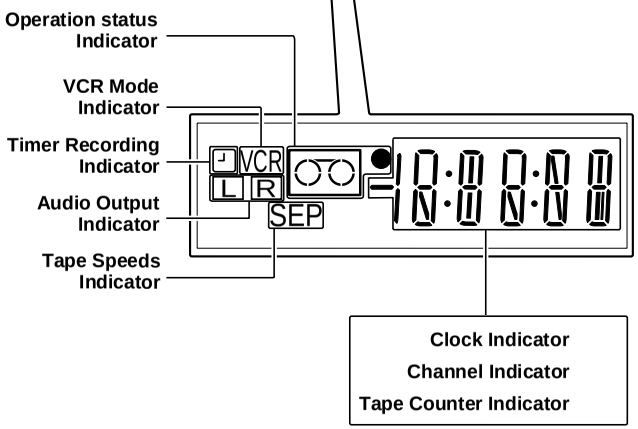
3-1. ACCESSORIES

Accessories: Remote control unit × 1, "AA" size battery (R-6, UM/SUM-3) × 2,
VIDEO/AUDIO cable × 1, Round coaxial cable (75 Ohm, 1 m [3-1/4 ft.]) × 1

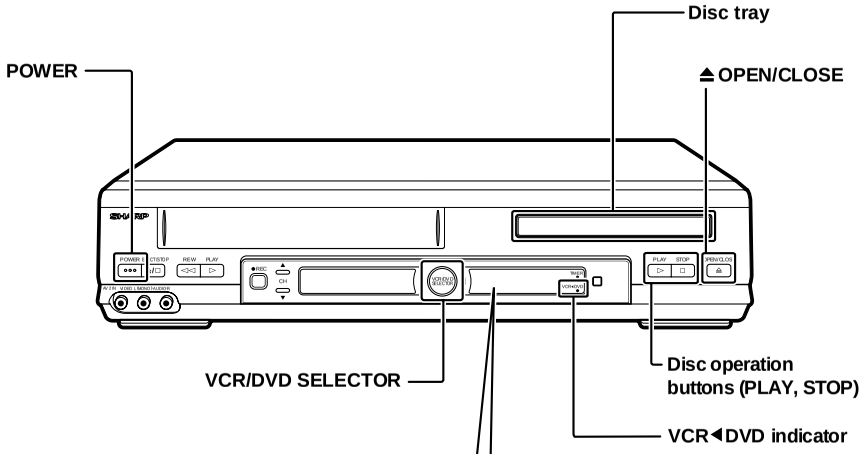
VCR Main Unit (Front)



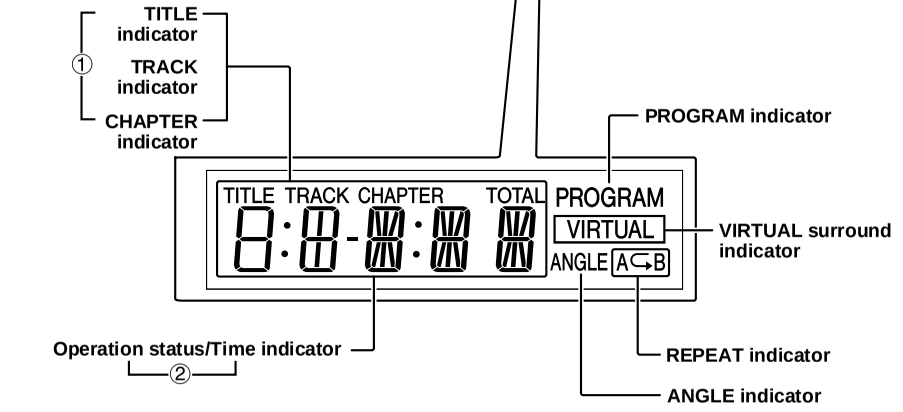
VCR Front Panel Display



DVD Main Unit (Front)

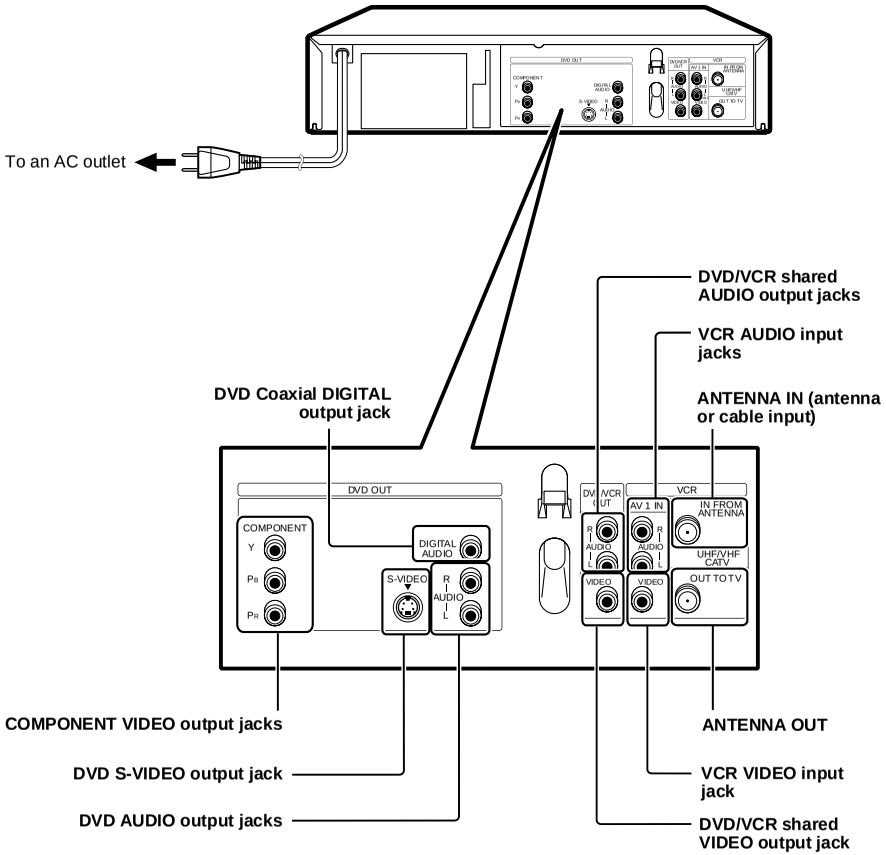


DVD Front Panel Display



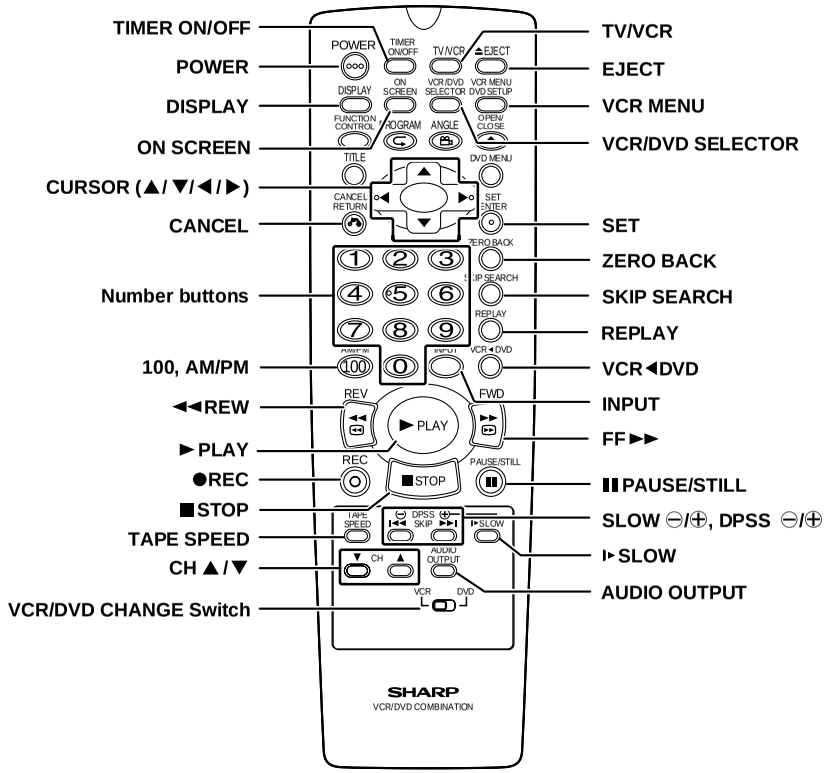
You can toggle between ① and ② by pressing the remote control unit's **DISPLAY** button.

Main Unit (Rear)



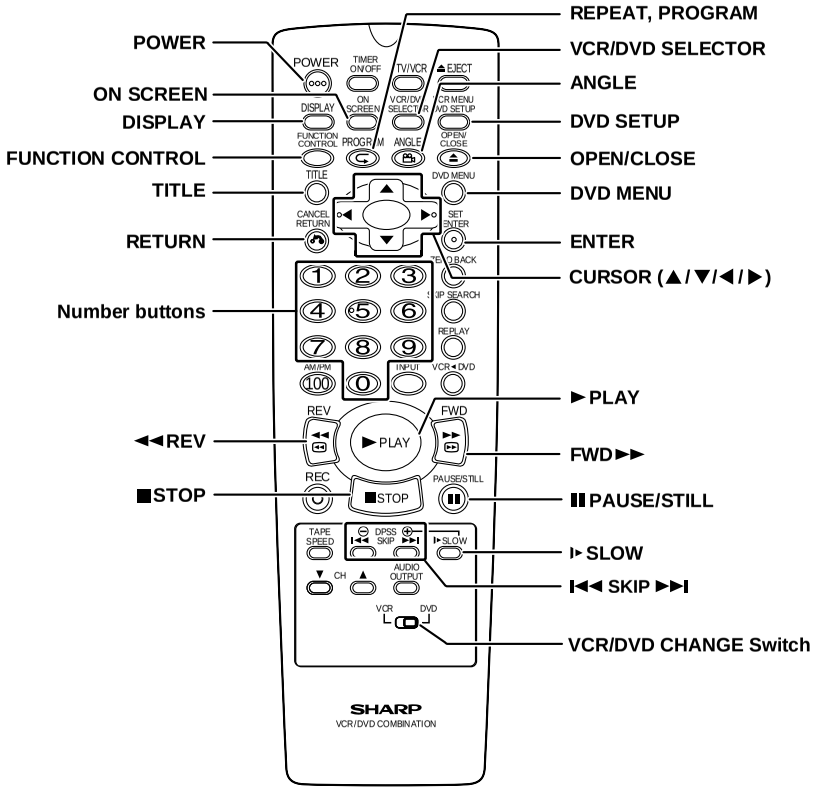
Remote Control Unit (VCR Operation Buttons)

- The explanations on this page use the **VCR/DVD CHANGE Switch** in the **VCR** position.



Remote Control Unit (DVD Operation Buttons)

- The explanations on this page use the **VCR/DVD CHANGE Switch** in the **DVD** position.



NOTE

- Do not subject the remote control unit to shock, water or excessive humidity.
- The remote control unit may not function if the product's sensor is in direct sunlight or any other strong light.
- Incorrect use of batteries may cause them to leak or burst. Read the battery warnings and use the batteries properly.
- Do not mix old and new batteries, or mix brands in use.
- Remove the batteries if you do not use the remote control unit for an extended period of time.

5. MAINTENANCE CHECK ITEMS AND EXECUTION TIME

MECHANICAL PARTS REGUIRING PERIODICAL INSPECTION

Use the following table as a guide to maintain the mechanical parts in good operating condition.

Parts \ Maintained	1,000 hrs.	2,000 hrs.
Pickup	◯	◯
Spindle Unit	□	◯
Sled Motor		◯
Loading Motor		◯
Belt	□	◯

Note ◯ : Part Replacement
□ : Cleaning
(For cleaning, use a lint-free cloth danpened with pure isopropyl alcohol.)

CARES WHEN USING THE PICKUP

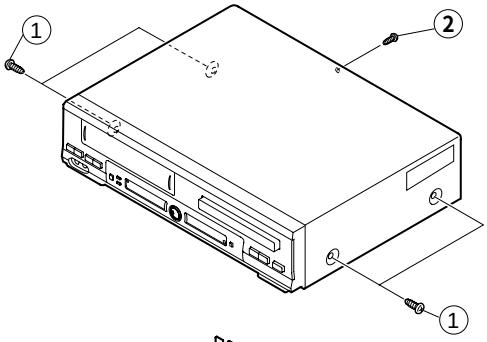
1. The laser light having wavelength 650 nm is emitted from the objective lens. BE CAREFUL SO THAT THE LASER LIGHT DOES NOT ENTER DIRECTLY INTO YOUR EYE.
2. The semiconductor laser may be easily damaged by electrostatic charges. When handling the pickup, take care so that the electrostatic charge is not generated.
3. The semiconductor laser may be easily damaged by overcurrent. Use the power supply unit which does not give any spike current when the power is turned on and off.
4. Carefully remove the dust and dirt from the objective lens with the lens blower.
   When handling the objective lens, take due care so that it is not contaminated with fingerprint, etc. If the objective lens is contaminated, impregnate the cleaning paper with a small quantity of solvent (isopropyl alcohol), and gently wipe to clean.
5. The ozone layer depleting components (ODC) are not used in the production process for the product.

6. DISASSEMBLY METHOD

6-1. DISASSEMBLY METHOD

1) Removing the cabinet.

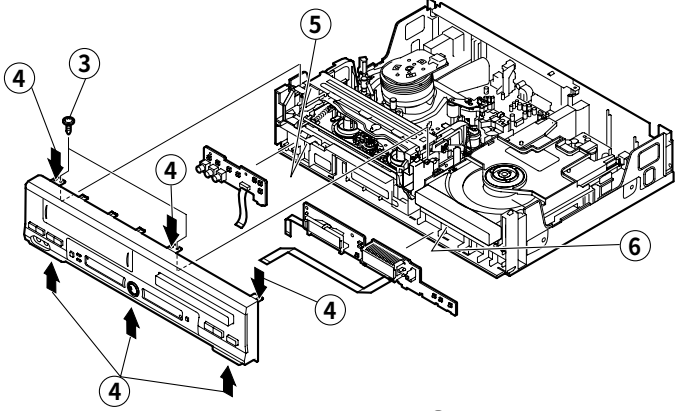
(1) Remove the four screws ① and one screw ②.



2) Removing the front panel.

(1) Remove the two screws ③.

(2) Release the six hooks ④.



3) Removing the front PWB.

(1) Release the one hook ⑤ and tilt the PWB toward you to remove it.

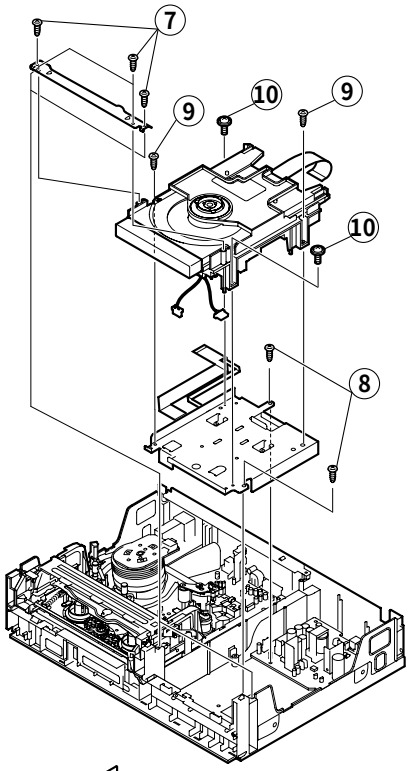
(2) Release the one hook ⑥ and tilt the PWB toward you to remove it.

4) Removing the DVD mechanism.

(1) Remove the four screws ⑦ to remove the DVD REINF. angle.

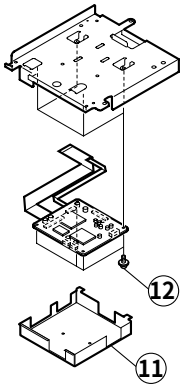
(2) Remove the two screws ⑧ and two screws ⑨.

(3) Remove the two screws ⑩ to remove the Angle (DVD) .

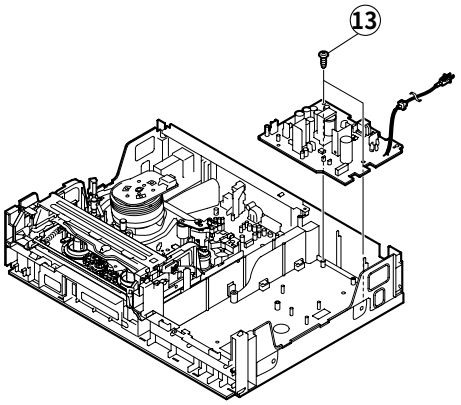


(4) Remove the DVD Shield (lower) ⑪.

(5) Remove the four screws ⑫ to remove the DVD Main PWB Unit from Angle (DVD).

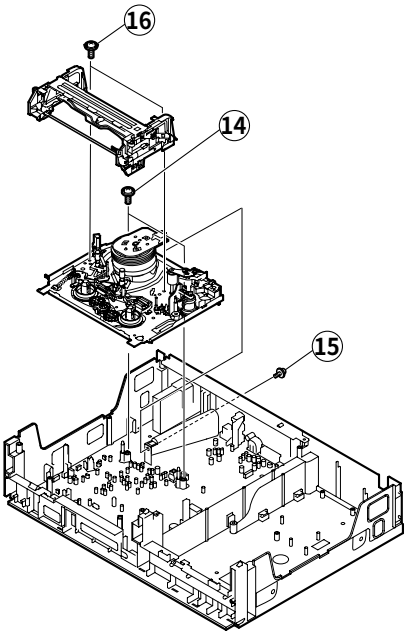


(6) Remove the two screws ⑬ to remove the Power PWB Unit.



5) Removing the Cassette Housing Control/VCR Mechanism.

(1) Remove the two screws ⑭.
(2) Remove the one screw ⑮.
(3) Remove the two screws ⑯.

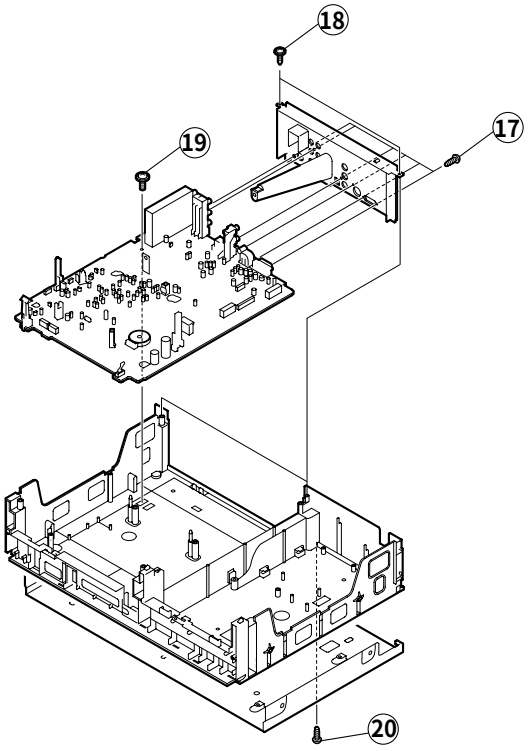


6) Removing the Antenna Terminal Cover/VCR Main PWB Unit.

(1) Remove the six screws ⑰.
(2) Remove the two screws ⑱.
(3) Remove the one screw ⑲.

7) Removing the Bottom Plate.

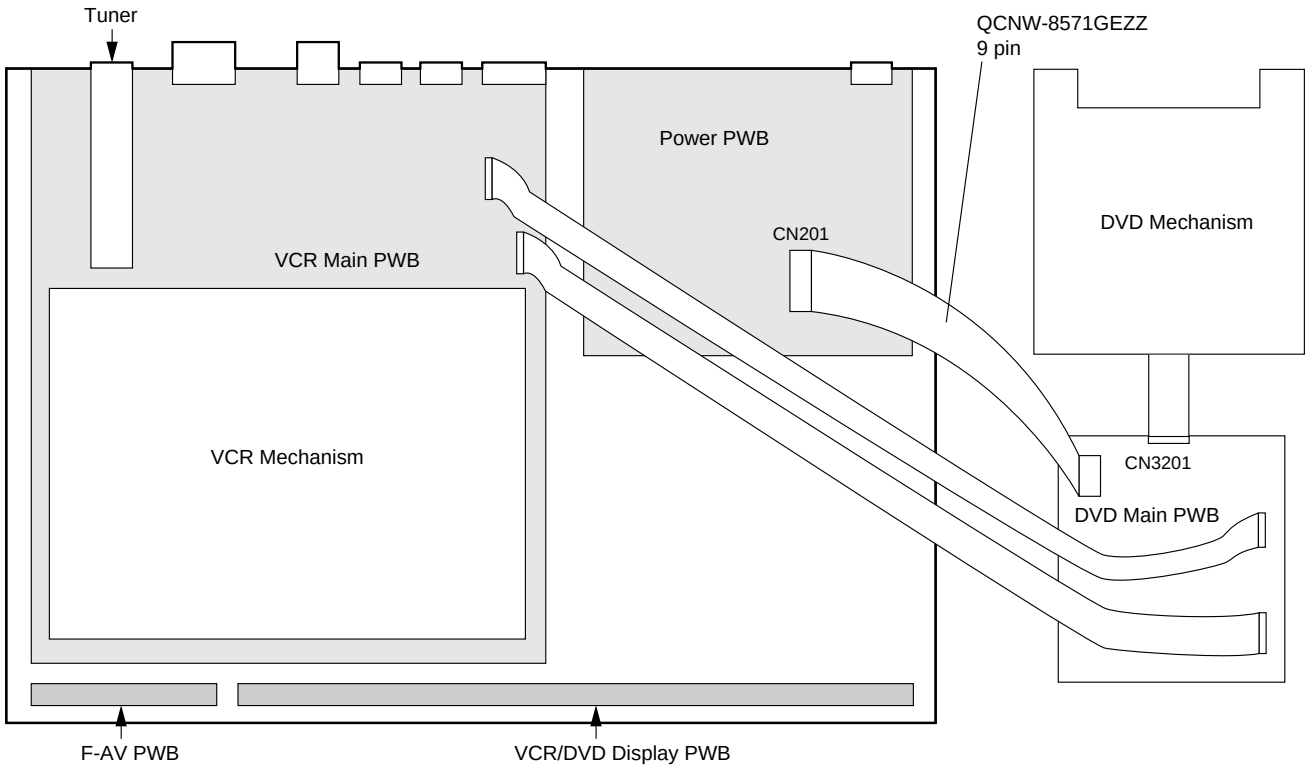
(1) Remove the one screw ⑳.



6-2. EXTENSION CABLE USE POINT (ONE PLACE)

Parts Code	Price Code	Name/Description
QCNW-8571GEZZ	AN	Extension cable (wire), 9pin 500mm DVD Main CN3201–Power CN201

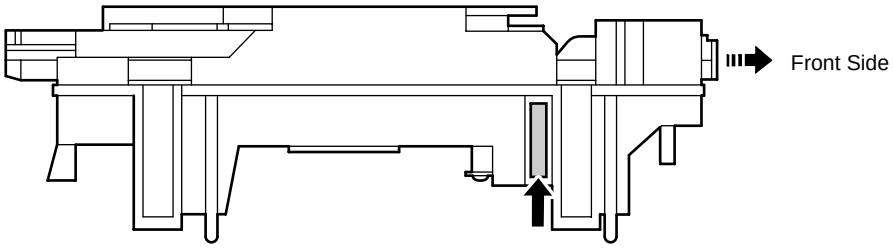
Extension Cable Diagram



6-3. REPLACEMENT OF MAIN PARTS

<Take out disk>

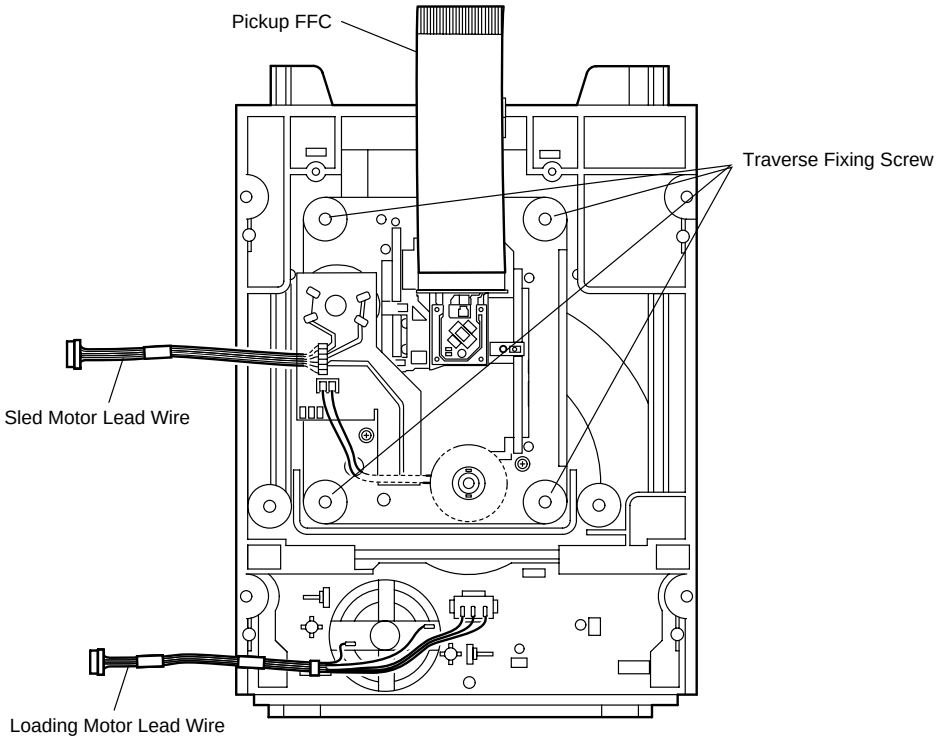
1. Remove the mechanism with angle from the set. (refer to (33) on page 104. Remove K, M, N)
2. It is in such cases as the thin driver, and it is pushed in slowly, and a tray is drawn in the arrow direction the Slide Rack on the left of the base chassis.
3. Take out disk.



<Disassembling and assembling the mechanism chassis>

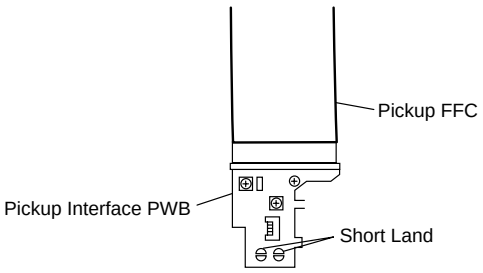
1. After setting the mechanism chassis to the angle state, ground it to prevent the electrostatic discharge damage of the pickup.
2. Remove the DVD Shield (lower) (40) (refer to the illustration on page 104).
3. Remove P, Q from the DVD Main PWB Unit (27). (Pickup Relay FFC (58) isn't removed.) (refer to the illustration on page 104)
4. Remove screws fixing the base chassis (located at the back right and at front left when facing the set).
5. With the Pickup FFC connected, turn over the base chassis and short (solder) two short lands on the pickup interface PWB in order to prevent the electrostatic discharge damage of the pickup.
6. Remove the Pickup FFC from the Main PWB.
7. Remove the Pickup FFC from the Pickup Interface PWB.
8. Remove the Traverse Fixing Screws to remove the Traverse Chassis ass'y.

Note: After assembling and wiring, remove the solder joint of the short land. If short-circuited, a disk is not played back.



<Replacing the Pickup and the Spindle Motor>

Since the Pickup optical axis and turntable inclination of DVD are adjusted with higher accuracy, make a replacement as a mechanism service chassis ass'y.

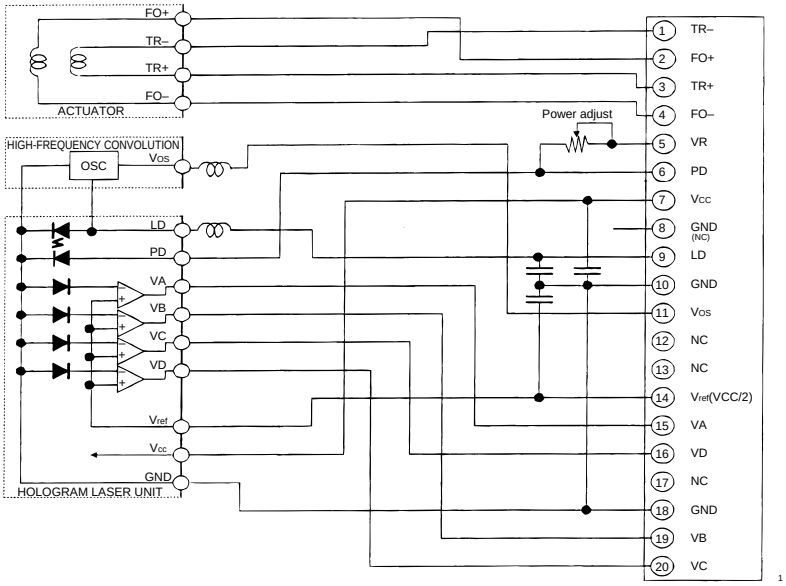


7. OPERATION OF PICKUP

7-1. CIRCUIT CONFIGURATION OF PICKUP

The pickup unit reads signals from the disk, and the flexible cable is connected to the board. The following signals flow through the cable.

7-2. EQUIVALENT CIRCUIT OF PICKUP



7-3. POLARITIES OF SIGNAL

Focus FO+, FO-	When electric current is flowed from FO+ to FO-, the lens comes to near the disk.
Tracking TR+, TR-	When electric current is flowed from TR+ to TR-, the lens goes toward the outer circumference.

7-4. SIGNALS OF PICKUP

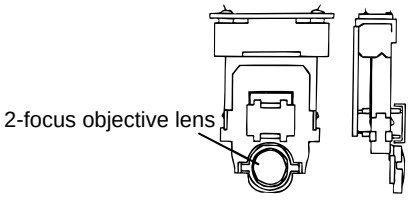
7-4-1. Tracking drive signal (TR+, TR-)

The signal drives the tracking servo mechanism which projects the beam on the track by moving the objective lens (OL) to the outer or inner circumference (at a right angle against the track) of the disk.

7-4-2. Focus drive signal (FO+, FO-)

The signal drives the focus servo mechanism which aligns the focus on the pit of the disk by elevating OL (vertically against the disk surface.)

The VR terminal is connected to GND.



Actuator assembly

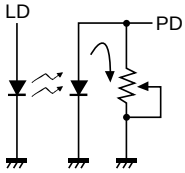
7-4-3. Monitor Diode (PD)

Since the laser diode largely varies output of the laser light even if the flowing current is slightly varied, the projection light is detected with the monitor diode to control the laser light to be equally output.

Since the current varies on the monitor diode according to the intensity of the received light of the laser diode, the drive current of the laser diode is reduced if the current of the monitor diode increases. On the contrary, the drive current of the laser diode is increased if the current of the monitor diode decreases.

As the projection light of the laser diode becomes stronger, the current of the monitor diode increases to increase the current which flows into the monitor diode output (PD). This is input to the pin 44 of IC301 and is compared with the reference voltage to control the drive current of the laser diode.

The circuit is called ALPC (Automatic Laser Power Control).



When the quantity of laser light increases, the current shown in figure increases and the PD terminal voltage rises.

IC301 is used to control. The LD terminal voltage lowers, and the quantity of light reduces. (IC301 is actuated by voltage input.)

7-4-4. Laser diode drive current control (LD)

Power supply to drive the laser diode

7-4-5. High-frequency convolution module power supply (VOSC)

The high-frequency convolution imposes the high-frequency signal on the DC current to impose the high frequency on the drive current of the laser. Thus, the interference of outgoing light and reflected light is prevented.

7-4-6. HF Signal (VA, VB, VC, VD)

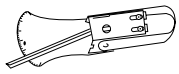
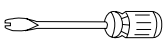
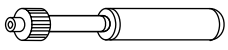
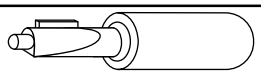
Signals recorded in the disk

8. ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS

The explanation given below relates to the on-site general service (field service) but it does not relates to the adjustment and replacement which need high-grade equipment, jigs and skill. For example, the drum assembling, replacement and adjustment service must be performed by the person who have finished the technical courses.

8-1 MECHANISM CONFIRMATION ADJUSTMENT JIG

So as to perform completely the mechanism adjustment prepare the following special jigs. So as to maintain the initial performance of the machine the maintenance and check are necessary. Utmost care must be taken so that the tape is not damaged. If adjustment needs any jig, be sure to use the required jig.

No.	Jig Item	Part No.	Code	Configuration	Remarks
1.	Torque Cassette Meter	JiGVHT-063	CZ		This cassette torque meter is used for checking and adjusting the torque of take-up for measuring tape back tension.
2.	Torque Gauge	JiGTG0090	CM		These Jigs are used for checking and adjusting the torque of take-up and supply reel disks.
		JiGTG1200	CN		
3.	Torque Gauge Head	JiGTH0006	AW		
4.	Torque Driver	JiGTD1200	CB		When fixing any part to the threaded hole using resin with screw, use the jig. (Specified torque 5 kg)
5.	Master Plane Jig and Reel Disk Height Adjusting Jig	JiGRH0002	BR		These Jigs are used for checking and adjusting the reel disk height.
		JiGMP0001	BY		
6.	Tension Gauge	JiGSG2000	BS		There are two gauges used for the tension measurements, 300 g and 2.0 kg.
		JiGSG0300	BF		
7.	Pinch pressing force measuring jig	JiGADP003	BK		This Jig is used with the tension gauge. Rotary transformer clearance adjusting jig.
8.	Alignment Tape				These tapes are especially used for electrical fine adjustment.
		VROATSV	CD		525 Monoscope: Video 7k, Audio —, HiFi Audio 58µm NTSC Color Bar: Video 1k, Audio —, HiFi Audio 58µm
		VROEFZCS OR VROEFZHS	BG		Black Level (only SYNC) signal: Video 1k, Audio —, HiFi Audio 19µm
			BH		Video 2.3k, Audio —, HiFi Audio 19µm
9.	Guide roller height adjustment driver	JiGDRiVERH-4	AP		This screwdriver is used for adjusting the guide roller height.
10.	X value adjustment gear driver	JiGDRiVER-6	BM		For X value adjustment
11.	Tension Pole Adjustment Driver	JiGHMEC-M005	CK		This Jig is used for adjustment of tension pole.

8-2 MAINTENANCE CHECK ITEMS AND EXECUTION TIME

Perform the maintenance with the regular intervals as follows so as to maintain the quality of machine.

Maintained / Parts	500 hrs.	1000 hrs.	1500 hrs.	2000 hrs.	Possible symptom encountered	Remarks
Guide roller ass'y	□	□	□	□	Lateral noises Head occasionally blocked	Abnormal rotation or significant vibration requires replacement.
Sup guide shaft	□	□	□	□		Clean tape contact part with the specified cleaning liquid.
Reverse guide	□	□	□	□		
Slant pole on pole base	□	□	□	□		
Full erase head	□	□	□	○	Color and beating	Clean tape contact area with the specified cleaning liquid.
A/C head	□	□	□	○	Small sound or sound distortion	
Upper and lower drum ass'y	□	○□	○□	○□	Poor S/N ratio, no color Poor flatness of the envelope with alignment tape	
Capstan D.D. motor	□	□	□	□	No tape running, uneven color	
Pinch roller	□	□	□	□	No tape running, tape slack	Clean rubber and rubber contact area with the specified cleaning liquid.
Reel belt		□		○	No tape running, tape slack, no fast forward/ rewind motion	
Tension band ass'y				○	Screen swaying	
Loading motor				○	Cassette not loaded or unloaded	
Idler ass'y				○	No tape running, tape slack	
Limiter pulley		□△		□○		
Supply/take-up main brake levers				○	Tape slack	

NOTE ○ : Part replacement. □ : Cleaning △ : Apply grease
<Specified> Cleaning liquid Industrial ethyl alcohol

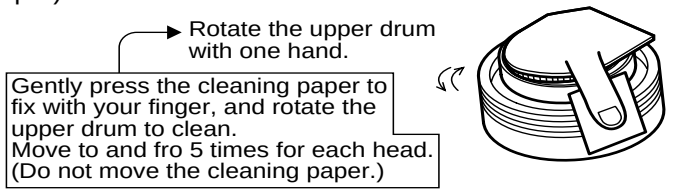
* This mechanism does not need electric adjustment with variable resistor. Check parts. If any deviation is found, clean or replace parts.

Video head cleaning procedure

1. Apply one drop of cleaning liquid to the cleaning paper with the baby oiler.
2. Gently press the cleaning paper against the video head to fix your finger, and move the upper drum so that each head is passed to and fro 5 times (do not move the cleaning paper).
3. Wipe with the dry cleaning paper.

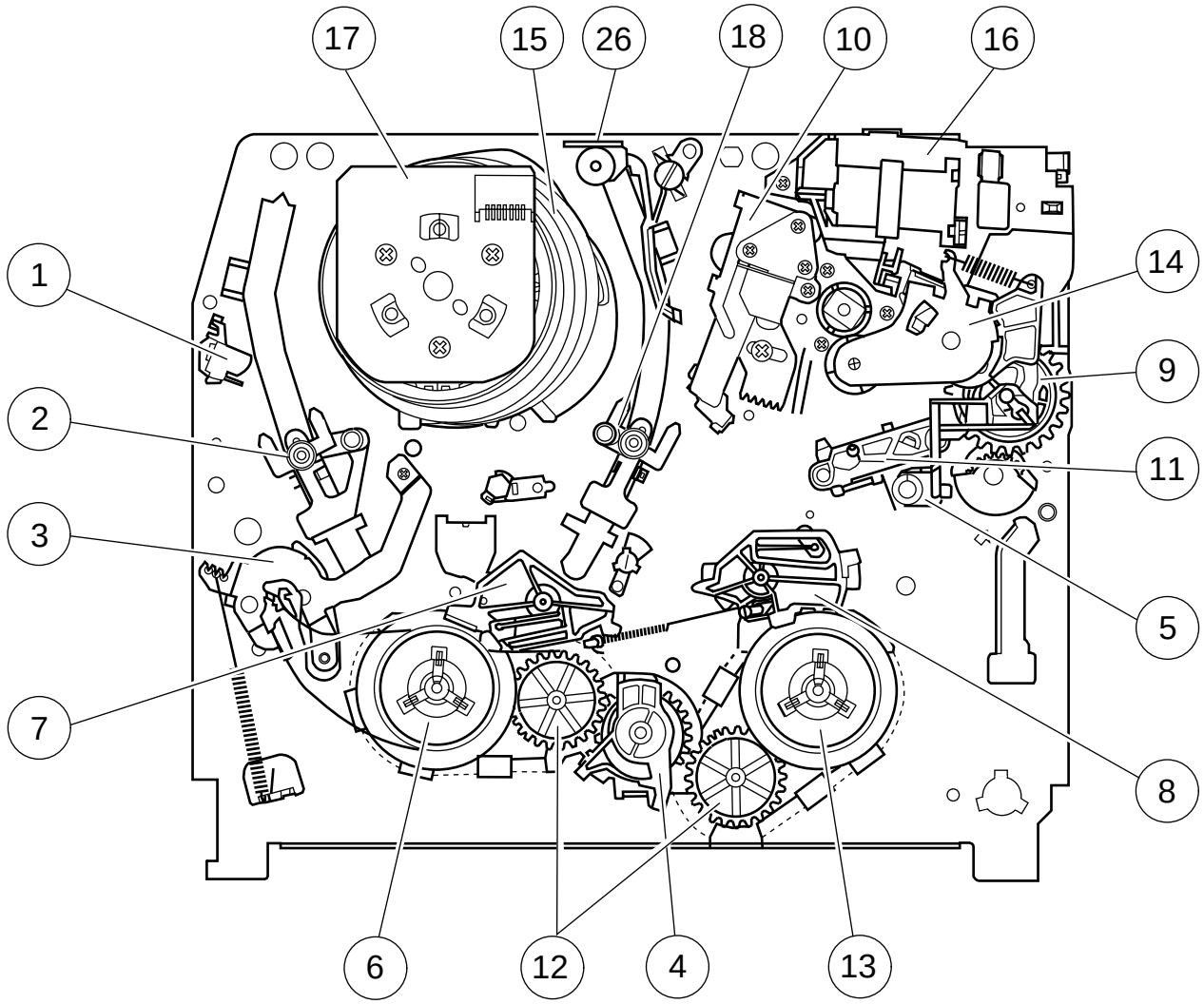
Notes :

- Use the commercially available ethanol of Class 1 as cleaning liquid.
- Since the video head may be damaged, do not move up and down the cleaning paper.
- Whenever the video head is cleaned, replace the cleaning paper.
- Do not apply this procedure for the parts other than the video head.


Rotate the upper drum with one hand.
Gently press the cleaning paper to fix with your finger, and rotate the upper drum to clean.
Move to and fro 5 times for each head.
(Do not move the cleaning paper.)

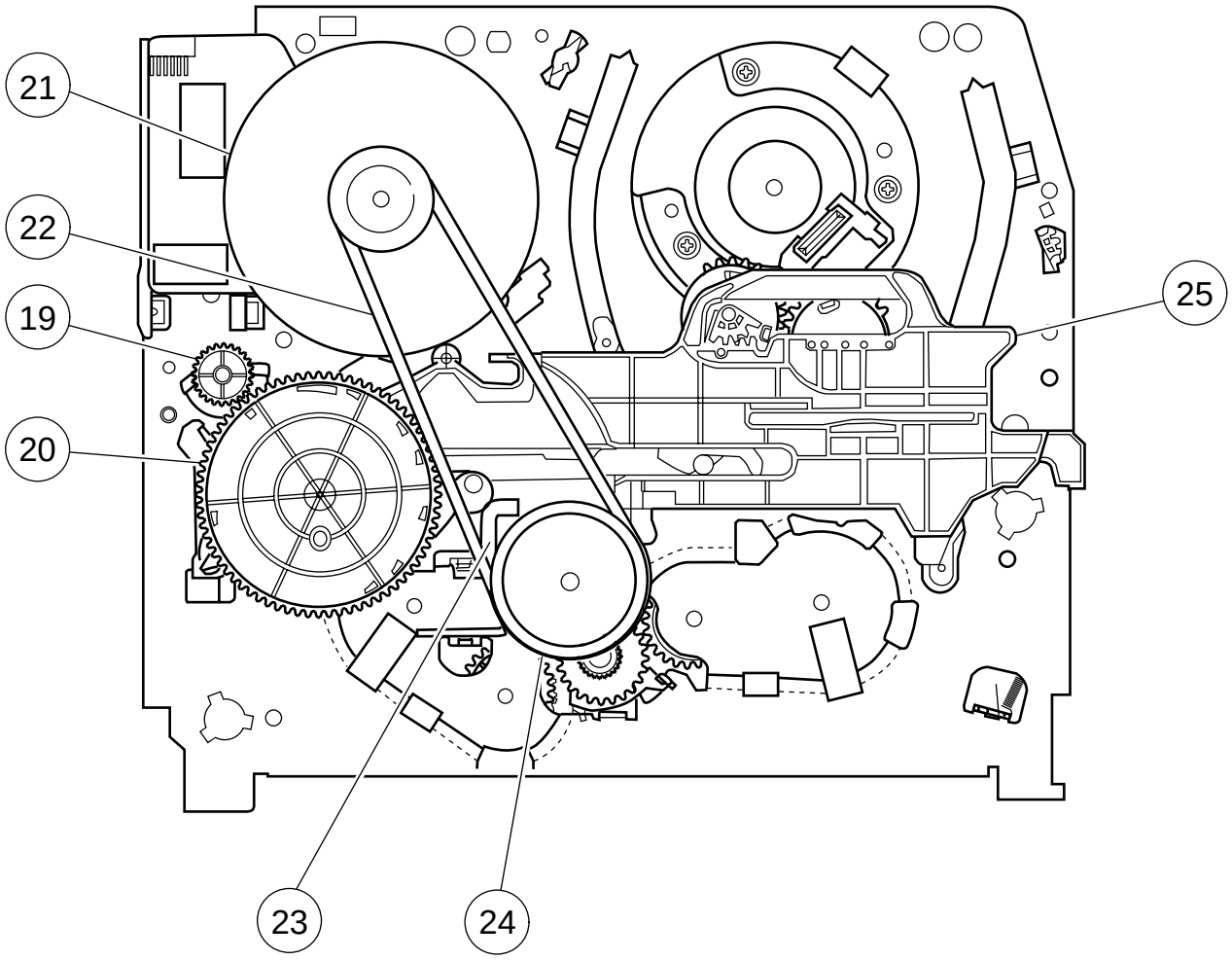
Parts Code	Description	Code
ZPAPRA56-001E	Cleaning Paper	AW
ZOiLR-02-24TE	Babe Oiler (Spoit)	AH

8-3. FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	11	Reverse guide lever ass'y
2	Supply pole base ass'y	12	Reel relay gear
3	Tension arm	13	Take-up reel disk
4	Idler wheel ass'y	14	Pinch roller lever ass'y
5	Open guide	15	Drum ass'y
6	Supply reel disk	16	Loading motor block
7	Supply main brake	17	Drum driver motor
8	Take-up main brake	18	Take-up pole base ass'y
9	Pinch drive cam	26	Auto head cleaner Ass'y
10	A/C head ass'y		

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)



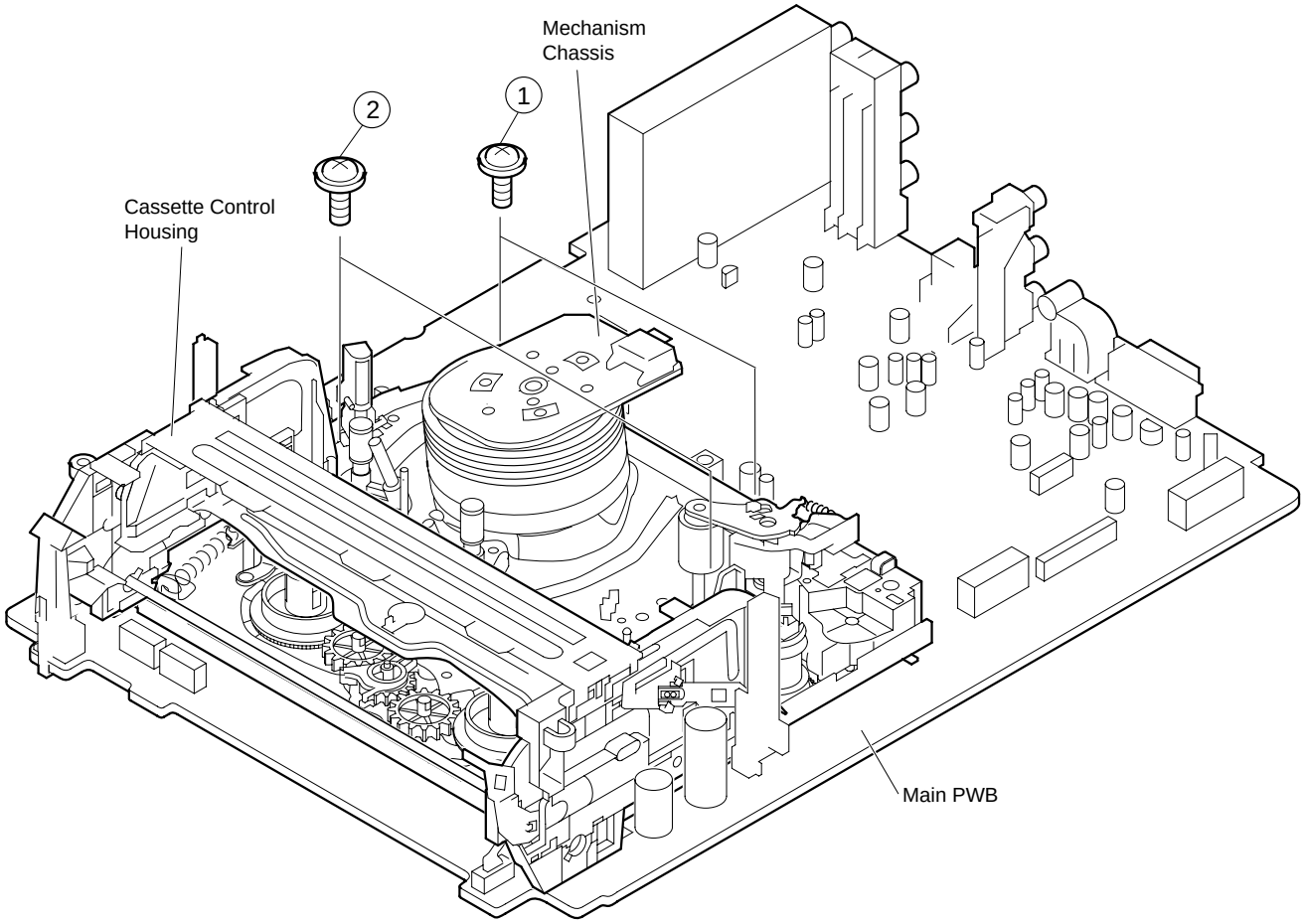
No.	Function	No.	Function
19	Syncro Gear	23	Clutch lever
20	Master cam	24	Limiter pulley ass'y
21	Capstan D.D. motor	25	Shifter
22	Reel belt		

8-4. DISASSEMBLY AND REASSEMBLY

8-4-1 DISASSEMBLING THE MECHANISM

1. When removing the mechanism from the set.
   Remove the two screws ① which connecting mechanism and main frame.
   Take out vertically the mechanism so that it does not damage the adjacent parts.

2. Removing the mechanism and cassette housing.
   Remove the two screws ② fixing the cassette housing to the mechanism, and remove the cassette housing.



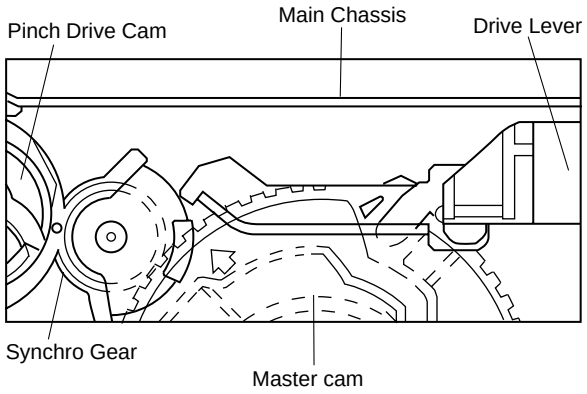
8-4-2 CARES WHEN REASSEMBLING

INSTALLING THE CASSETTE HOUSING

When the cassette housing is installed on the mechanism, the initial setting is essential condition.
There are two initial setting methods, namely electrical and mechanical.

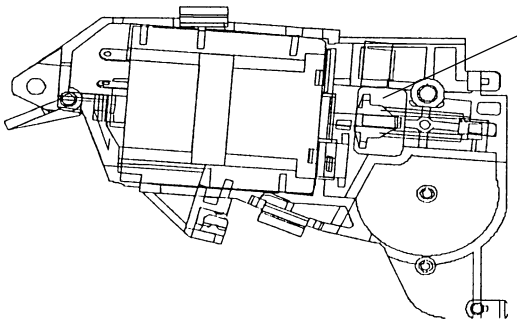
1. Electrical initial setting

So as to perform initial setting of mechanism execute the Step 1 of Installation of cassette housing. After ascertaining the return to the initial setting position install the cassette housing. (Conditions: When mechanism and PWB have been installed)



2. Mechanical initial setting

- Rotate the worm gear by pushing the flange manually until return to initial position.
- When apply power supply to rotate the loading motor, please remove/unsolder at least one terminal wire.
- If voltage applied to loading motor without disconnecting the terminal wire, there is a possibility the capstan motor IC will damage.
- The maximum applied voltage is 9V. If more than 9V, there is a possibility the mechanism will damage.
- After ascertaining the return to the initial set position install the cassette housing in the specified position. (This method is applied only for the mechanism.)



Rotate the flange of worm gear by using thin stick.
CW ---- Loading direction
CCW -- Ejection direction

Note
Be careful not to damage the gear of worm gear and worm wheel gear. It might cause a strange sound.

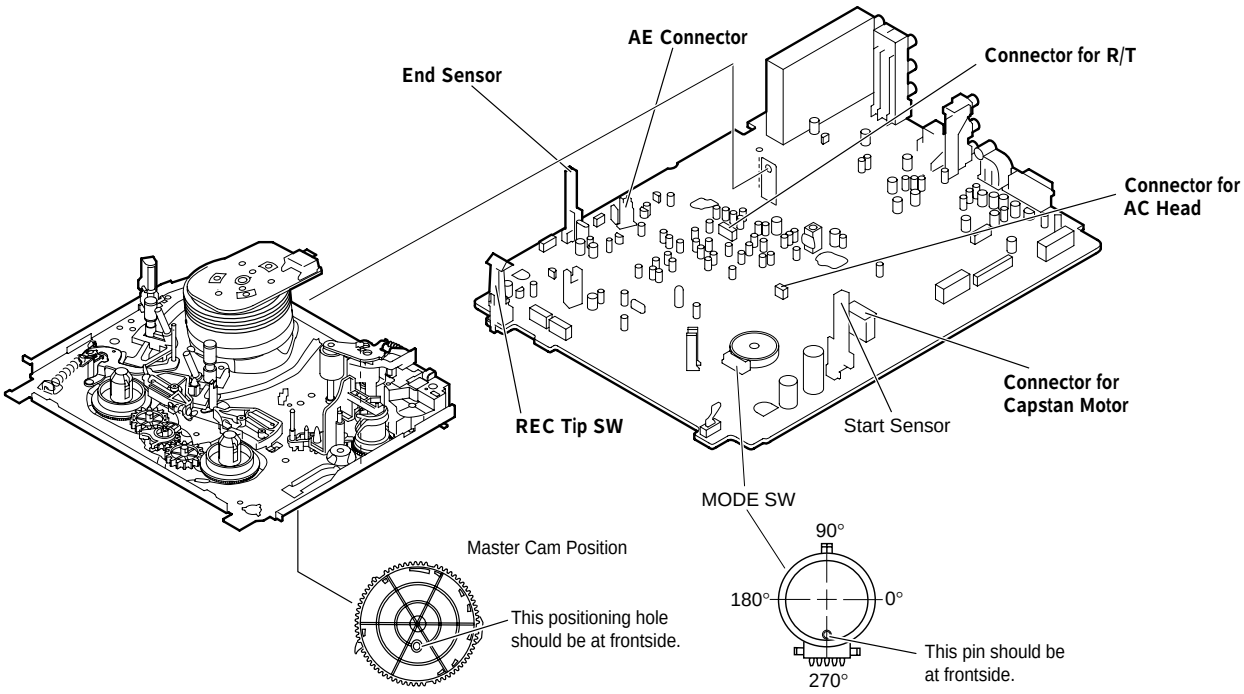
INSTALLING THE MECHANISM ON PWB

Lower vertically the mechanism, paying attention to the mechanism edge mode SW position, (Set the mode SW position to 270° and make sure the master cam position hole also in 270° position) and install the mechanism with due care so that the parts are not damaged.

* Please make sure to insert correctly.
  If not, strange moving will occur and will couse mechanism damage.

PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with REC Tip SW.



8-5 REMOVING AND INSTALLING THE CASSETTE HOUSING

- **Removal**

1. In the cassette removing mode, remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
   a) Remove two screws ①.
   b) Pull and circle the drive lever and pull up the cassette housing control.

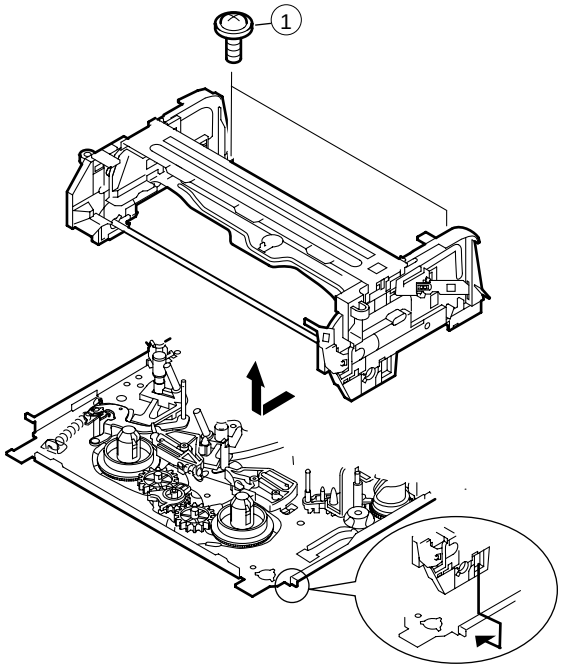


Figure 8-1.

- **Reassembly**

1. Before installing the cassette housing control, short-circuit between TP803 and TP802 provided at main PWB, press the eject button. The master cam turns and stop in eject position. Fit the drive lever to master cam through main chassis, push down and slide the drive lever towards to master cam.
   *Eject position: Pinch Drive Cam positioning hole parallel to center of Synchro Gear (Synchro gear marking line). Synchro Gear positioning mark parallel to center of master cam.
2. Install in the reverse order of removal.

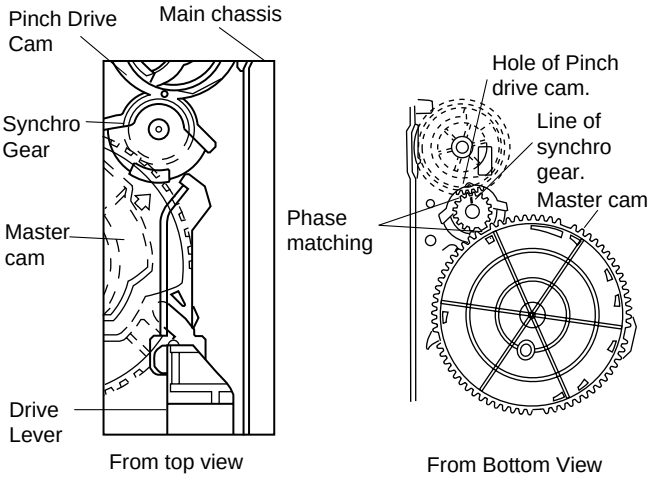


Figure 8-2.

Notes

1. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
2. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
3. After installing the cassette housing control once perform cassette loading operation.

8-6 TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Remove the full-surface panel.
2. Short-circuit between TP803 and TP802.
3. Plug in the power cord.
4. Turn off the power switch.
   (The pole bases move into U.L.position.)
5. Open the lid of a cassette tape by hand.
6. Hold the lid with two pieces of vinyl tape.
7. Set the cassette tape in the mechanism chassis.
8. Stabilize the cassette tape with a weight (500g) to prevent floating.
9. Turn on the power switch.
10. Perform running test.

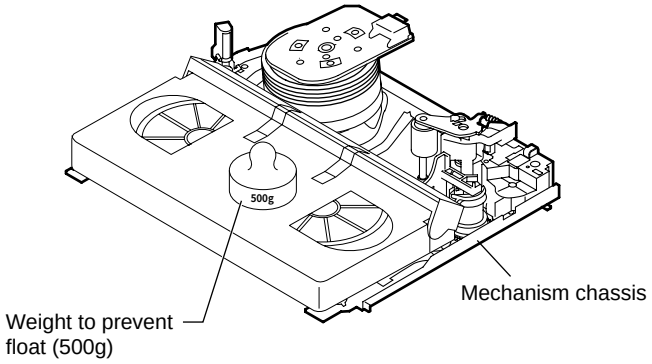


Figure 8-3.

Note:
The weight should not be more than 500g.

To take out the cassette tape.

1. Turn off the power switch.
2. Take out the cassette tape.

8-7 REEL DISK REPLACEMENT AND HEIGHT CHECK

- **Removal**

1. Remove the cassette housing control assembly.
2. Remove the Supply/Take-up main brake ass'y.
3. Remove tension band from the tension arm ass'y.
4. Remove the reel disk.

Note:
Take care so that the tension band ass'y and main brake ass'y are not deformed.

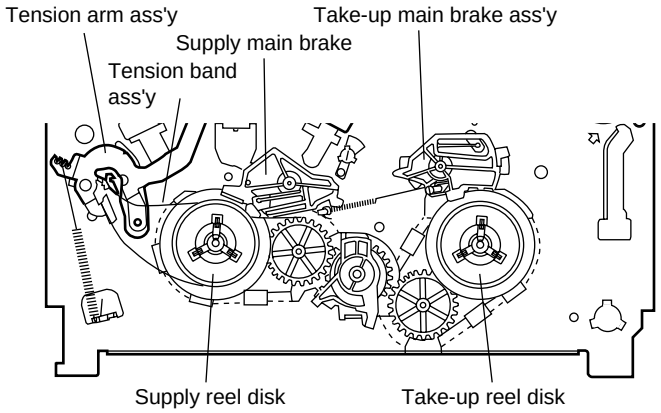


Figure 8-4.

- **Reassembly (Supply reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and hook to tension arm ass'y.
4. Assemble the Supply main brake ass'y.

Notes:

1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Supply main brake ass'y. Be careful so that grease does not adhere to the brake surface.

- **Reassembly (Take-up reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and assemble the take-up main brake ass'y.

Notes:

1. Take care so that the Take-up main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see **8-12**), and check the brake torque (see **8-16**).

- **Height checking and adjustment**

Notes:

1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

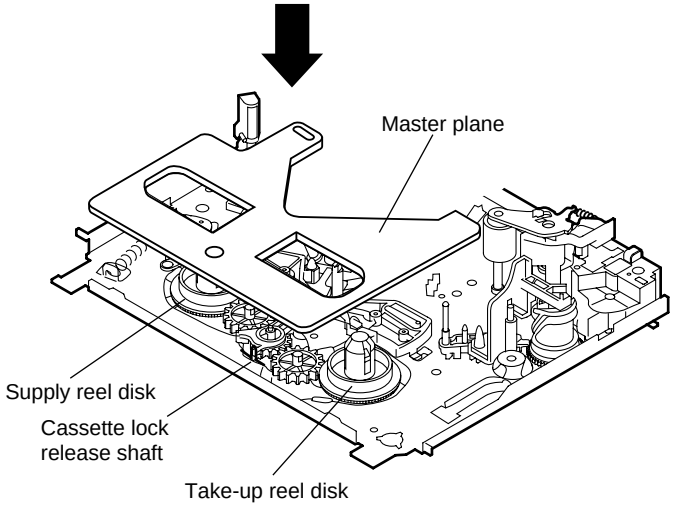


Figure 8-5.

Note:

- Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

Note:
Whenever replacing the reel disk, perform the height checking and adjustment.

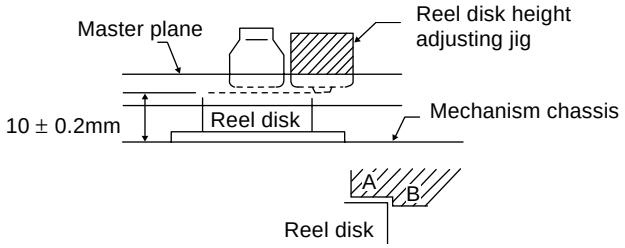


Figure 8-6.

8-8 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 25mN·m (255gf·cm).

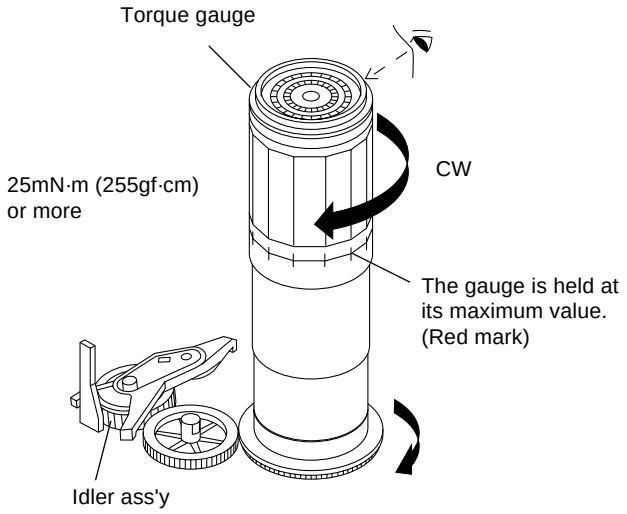


Figure 8-7.

- **Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. pulley, reel belt, and limiter pulley with cleaning liquid, and check again.
2. If the torque is less than the set value, replace the reel belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

8-9 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 25mN·m (255gf·cm).

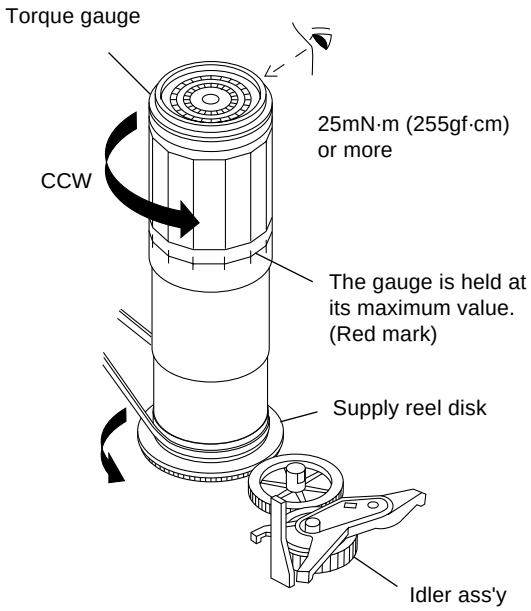


Figure 8-8

- **Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. pulley, reel belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

8-10 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**
- **Turn off the power switch.**
- **Open the cassette torque meter lid, and fix it with tape.**
- **Load the cassette torque meter into the unit.**
- **Put the weight (500g) on the cassette torque meter.**
- **Turn on the power switch.**
- **Press the picture record button, and set EP picture record mode (x3).**

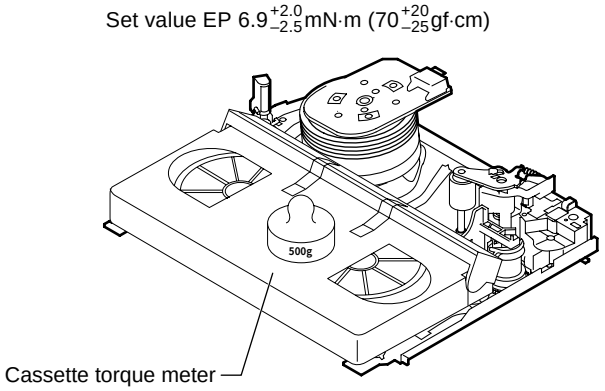


Figure 8-9.

- **Checking**

1. Make sure that value is within the setting 6.9 $^{+2.0}_{-2.5}$ mN·m (70 $^{+20}_{-25}$ gf·cm).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the EP record mode (x3) and make sure that the winding-up torque is within setting.

- **Adjustment**

If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
When the torque cassette is set, put a weight (500g) to prevent rise.
When the cassette torque meter is taken out.
Turn off the power switch.

8-11 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

Press the playback button and rewind button to set the video search rewinding mode.

- **Checking**

Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value 14.1 ± 3.5mN·m. (144 ± 35gf·cm)

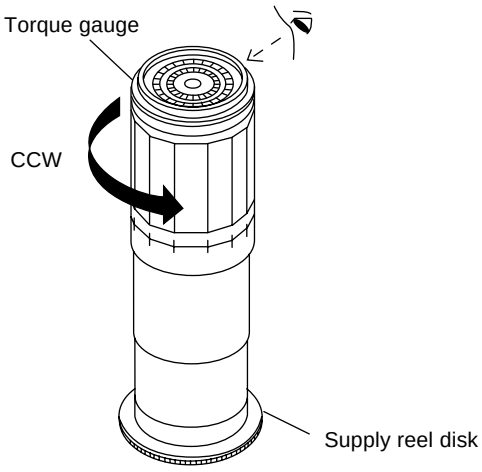


Figure 8-10.

Note:
Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

- **Adjustment**

If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

8-12 CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Checking**

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value 3.7 ± 1.5mN·m (38 ± 15gf·cm).

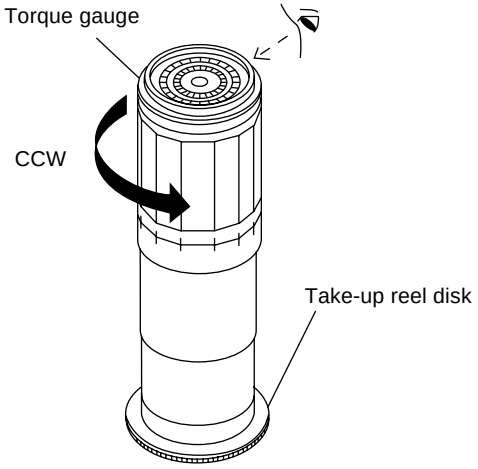


Figure 8-11.

Note:

Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

8-13 CHECKING THE PINCH ROLLER PRESSURE

*** Checking can be perform with or without cassette housing control.**

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Checking**

Press the play button to set the playback mode.

1. Detach the pinch roller from the capstan shaft. Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
2. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.
3. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
4. Make sure that the measured value is within setting change to 9.8 ± 2N (1.0 ± 0.2kgf).

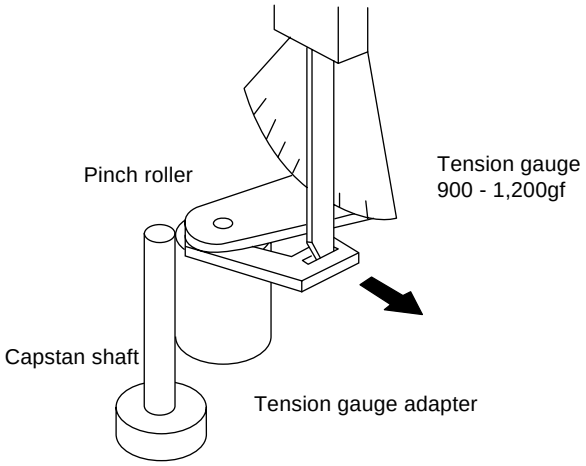


Figure 8-12.

8-14 CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

*** Checking can be perform with or without cassette housing control.**

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting (without cassette housing control)**

1. Turn off the power switch.
2. Open the cassette tape (T-120), and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette tape.
5. Turn on the power switch.
6. Make the adjustment with the beginning of a T-120 tape.

- **Setting (with cassette housing control)**

1. Insert cassette tape (T-120)
2. Make the adjustment with the beginning of a T-120 tape.

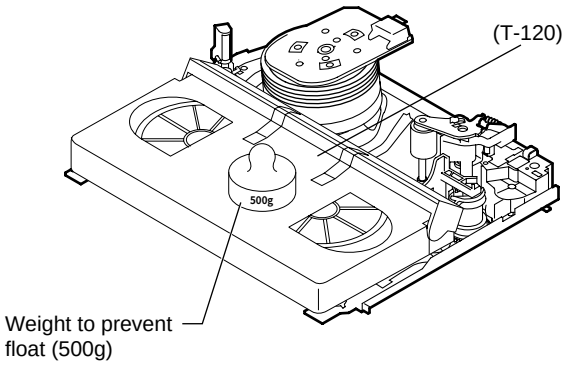
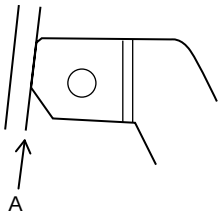


Figure 8-13.

- **Checking**

1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.
2. Visually check to see if the position of the tension pole is within the $0^{+0.5}_{-0.2}$ mm from the left side line.

Standard A = $0^{+\ 0.5}_{-\ 0.2}$ mm



Make the adjustment with the beginning of a T-120 tape.

Figure 8-14.

At left side from the reference line. (A).

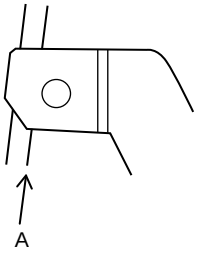


Figure 8-15.

Insert the tension pole adjustment driver to main chassis hole, and rotate counterclockwise.

At right side from the reference line. (A).

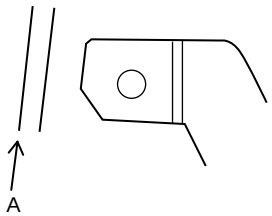


Figure 8-16.

Insert the tension pole adjustment driver to main chassis hole, and rotate clockwise.

Tension pole adjustment driver adjusting direction

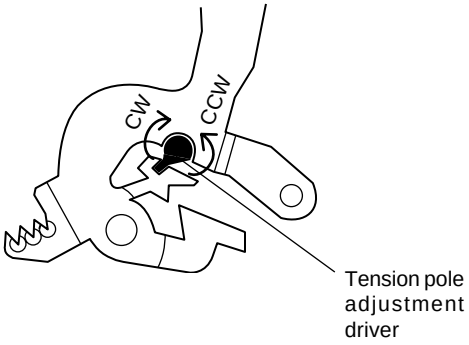


Figure 8-17.

8-15 CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

*** Checking can be perform with or without cassette housing control.**

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting (without cassette housing control)**

1. Turn off the power switch.
2. Open the cassette torque meter and fix with tape.
3. Set the cassette torque meter in loading state.
4. Put the weight (500g) on the cassette torque meter.
5. Turn on the power switch.

- **Setting (with cassette housing control)**

1. Insert cassette torque meter.

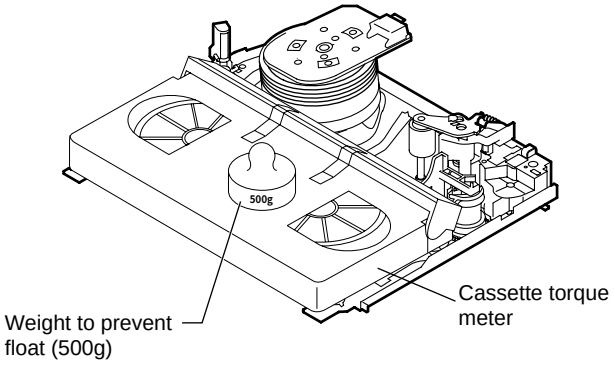


Figure 8-18.

- **Checking**

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting 3.9 to 5.5mN·m (40 to 56gf·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

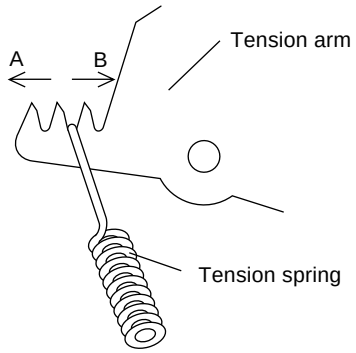
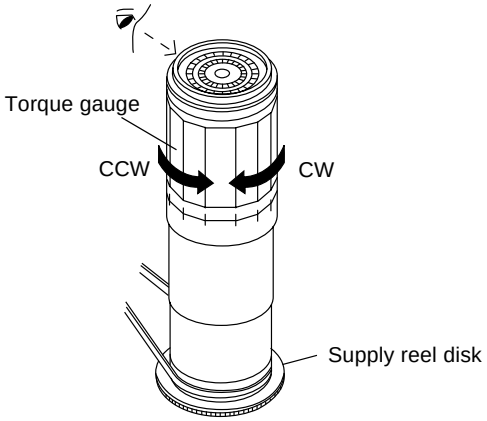


Figure 8-19.

8-16 CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW:	$4.41 \pm^{+2.0}_{-1.5}$ mN·m ($45 \pm^{+20}_{-15}$ gf·cm)
CW:	$4.12 \pm^{+1.5}_{-1.2}$ mN·m ($42 \pm^{+15}_{-12}$ gf·cm)

Figure 8-20.

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

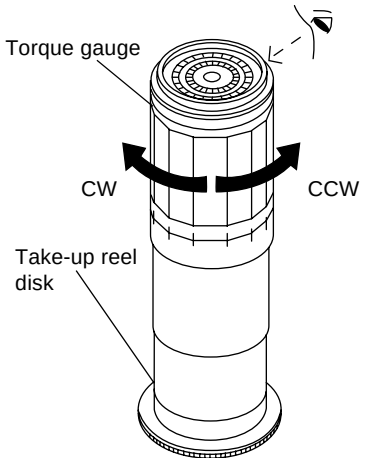
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.
4. Please check Idler gear not contact with reel relay gear (SU side)

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: $4.12 \pm^{+1.5}_{-1.2}$ mN·m (42^{+15}_{-12} gf·cm); CCW direction: $4.41^{+2.0}_{-1.5}$ mN·m ($45 \pm^{+20}_{-15}$ gf·cm).

- **Checking the brake torque at the take-up side**



CCW:	$4.41 \pm^{+2.0}_{-1.5}$ mN·m ($45 \pm^{+20}_{-15}$ gf·cm)
CW:	$4.12 \pm^{+1.5}_{-1.2}$ mN·m ($42 \pm^{+15}_{-12}$ gf·cm)

Figure 8-21.

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at main PWB, plug in the power cord.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
4. Please check Idler gear not contact with reel relay gear (TU side)

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: $4.41^{+2.0}_{-1.5}$ mN·m (45^{+20}_{-15} gf·cm), CW direction: $4.12^{+1.5}_{-1.2}$ mN·m (42^{+15}_{-12} gf·cm).
2. Adjustment of the brake torque at the supply side and the take-up side

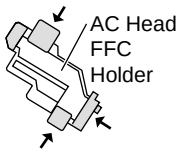
- Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
- If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

8-17 REPLACEMENT OF A/C (AUDIO/CONTROL) HEAD

1. In eject position unplug the power cord.

- **Removal**

1. Take out FFC holder from main chassis. (Push 3 hooking point and pull-up the holder).
2. Remove the screws ①②③, Tilt screw.
3. Unsolder the PWB fitted to the A/C head.



Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may out.

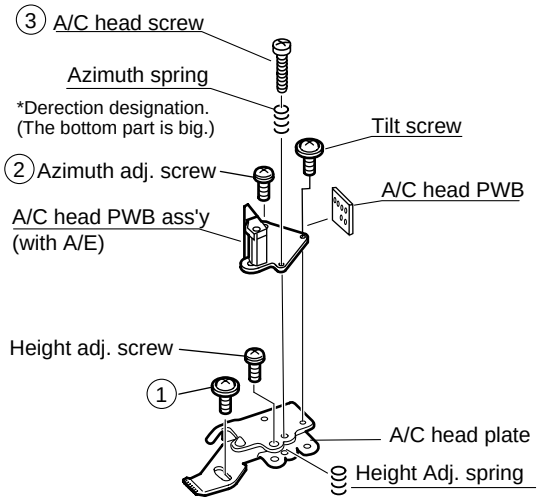


Figure 8-22.

- **Replacement**

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head arm (lower surface) to the A/C head plate to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and A/C head front section) (See the figure below.)

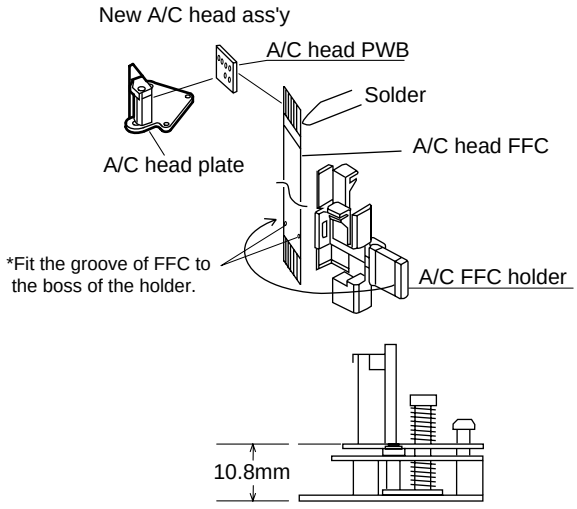


Figure 8-23.

3. Align the left end of gear of A/C head arm with the punched mark of chassis, tentatively tighten the screws ① so as to ensure smooth motion of A/C head arm. Tightening torque must be 0.45 ± 0.05N·m (4.5 ± 0.5kgf·cm).

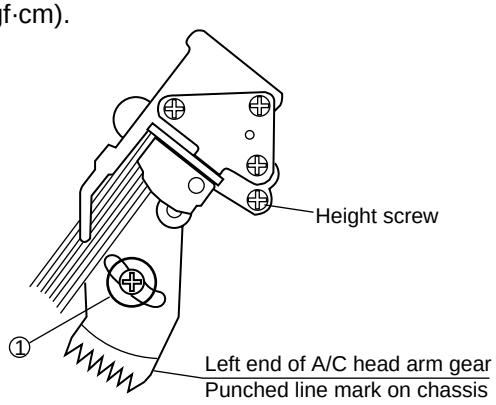


Figure 8-24.

Notes:

1. If the screw ① is tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in **8-19**.)

8-18 A/C HEAD HEIGHT ROUGH ADJUSTMENT

- **Setting**

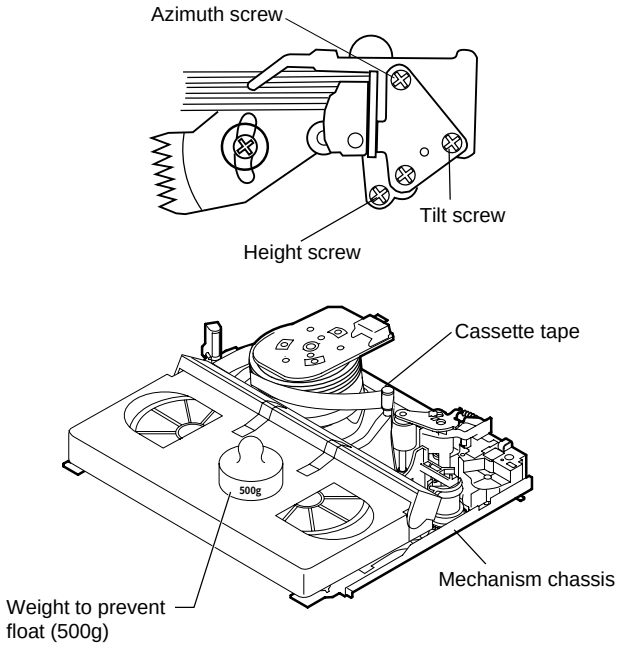


Figure 8-25.

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.

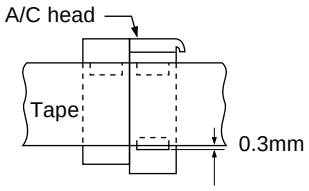


Figure 8-26.

- **Adjustment**

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

8-19 ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
   ① Check and adjust the position of the tension pole. (See **8-14**.)
   ② Check and adjust the video search rewind back tension. (See **8-12**.)
   ③ Connect the oscilloscope to the test point for PB ATR signal output (TP201). Set the synchronism of the oscilloscope to EXT. The PB ATR signal is to be triggered by the head switching pulse (TP202).
   ④ Set the alignment tape (VROATSV) to play.

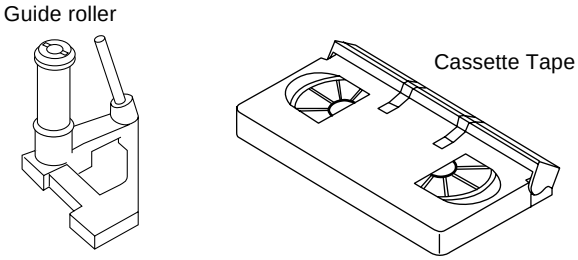


Figure 8-27.

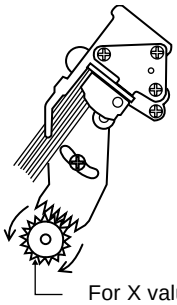
   ⑤ Press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time make sure that the ATR signal waveform changes nearly parallel.
   ⑥ Unless the ATR signal waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For ATR signal adjustment procedure refer to **Figure 8-31**.)
   ⑦ Turn the tilt screw to remove the tape crease at the fixing guide flange.
   Playback the tape and check for tape crease at the fixing guide flange.
   (1) If there is no tape crease
   Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.
   (2) If there is tape crease
   Turn counterclockwise the tilt screw so that the tape crease disappears.
   (Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

Notes:

1. Previously set the tracking control in the center position, and adjust the ATR signal waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side ATR signal waveform must have higher flatness.

Figure 8-28.

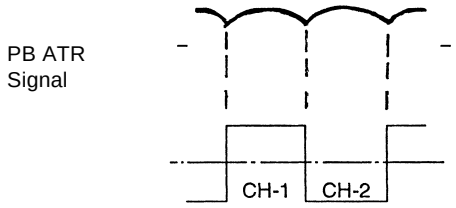
2. Adjustment of A/C head height and azimuth
   ① Perform the initial setting of A/C head position by the method stated in "**8-17** Replacement 3".
   ② Connect the oscilloscope to the audio output terminal.
   ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
   ④ Using the alignment tape in which 7 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
   ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.



For X value adjustment
Adjust the X value, turning the gear-type screwdriver.

Figure 8-29.

3. Tape run adjustment
   ① Connect the oscilloscope to PB ATR signal output test point, set oscilloscope sync to EXT, trigger-input the PB CHROMA signal (head switching pulse).
   ② Rough adjustment of X value
   Tentatively fix A/C head arm screws ① by the method described in "**8-17** Replacement 3".
   Playback the alignment tape (VROATSV) and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in **Figure 8-34**, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: When the A/C head is adjusted, adjust so that the maximum ATR signal waveform is obtained nearest the position of initial setting made in **8-17**.)
   ③ Next, press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the ATR signal waveform changes nearly parallel.
   ④ If the tape is lifted or sunk from the helical lead surface, the PB ATR signal waveform appears as shown in **Figure 8-31**.
   ⑤ Press the tracking button (+), (–) and make sure that the ATR signal waveform changes nearly parallel.
   ⑥ Finally, check tape crease near the reverse guide. If tape crease is found, adjust tilt screw 45° counter clockwise. Small tape crcase will appear at retain guide after this adjustment finished.



Head switching pulse

Figure 8-30.

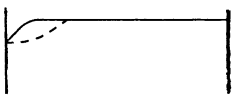
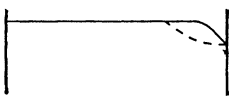
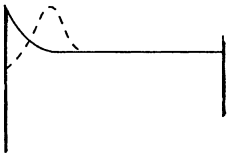
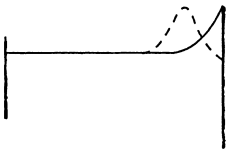
	When the tape is above the helical lead.		When the tape is below the helical lead.	
	Supply side	Take-up side	Supply side	Take-up side
				
				
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Supply side guide roller rotated in counterclock-wise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the ATR signal.	Take-up side guide roller rotated in counterclock-wise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the ATR signal.

Figure 8-31.

4. A/C head X value adjustment
   ① Fix A/C head arm screws ① by the method described in "**8-17** Replacement 3".
   ② Playback the alignment tape (VROATSV), and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   ③ Move the A/C head with the X value adjustment gear driver by the method shown in **Figure 8-34**, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: At this time adjust so as to get the maximum ATR signal waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in **8-19**, 3-②.)
   ④ Adjust the playback switching point (Refer to the electric adjustment method.)
   ⑤ Playback the self-picture-recorded tape, and check the flatness of ATR signal waveform and sound.

Notes:
When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to **8-19**, 3-②).

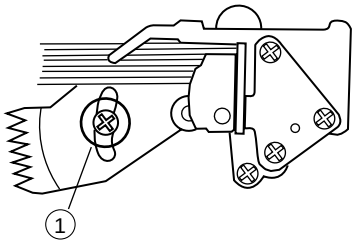


Figure 8-32.

8-20 REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the set.

- **Removal (Follow the order of indicated numbers.)**

1. Unsolder loading motor wire and drum FFC.
2. Remove the reel belt ①.
3. Remove the three screws ②.

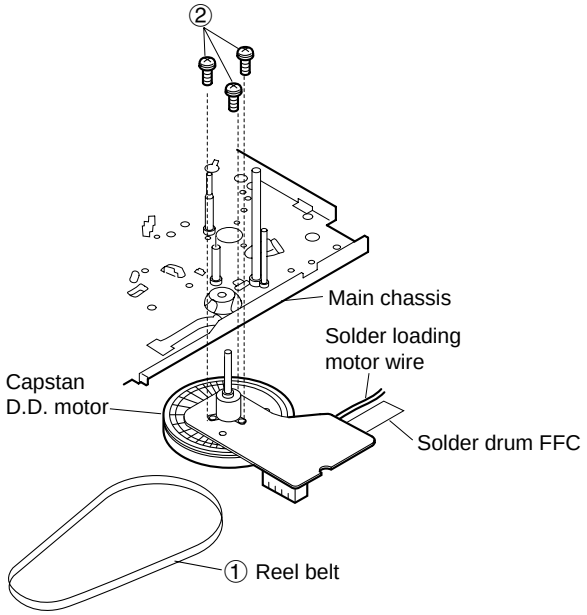


Figure 8-33.

- **Reassembly**

1. Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws ②.
2. Install the reel belt.
3. Solder loading motor wire and drum FFC.

Notes:

1. After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
2. Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in **8-19** item 2.

8-21 REPLACEMENT OF DRUM D.D. MOTOR

1. Set the ejection mode.
2. Withdraw the main power plug from the socket.

- **Removal (Perform in numerical order.)**

1. Disconnect the FFC cable ①.
2. Unscrew the Drum D.D. stator assembly fixing screws ②.
3. Take out the Drum D.D. stator assembly ③.
4. Unscrew the Drum D.D. rotor assembly fixing screws ④.
5. Take out the Drum D.D. rotor assembly ⑤.

Notes:

1. In removing the Drum D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
2. Install, so that the Drum D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
3. Be careful not to damage the upper drum or the video head.
4. Protect the hole elements from shock due to contact with Drum D.D. stator or Drum D.D. rotor ass'y.
5. After installation adjust the playback switching point for adjustment of servo circuit.

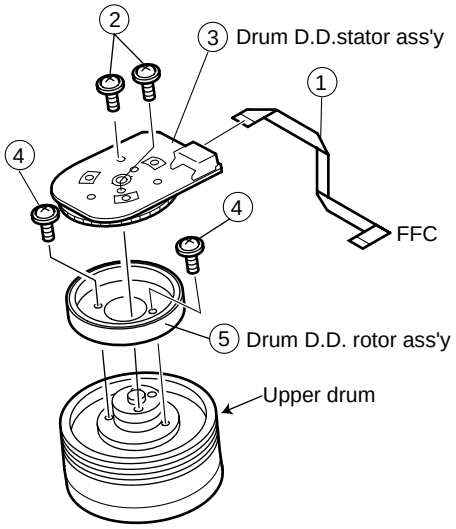


Figure 8-34.

8-22 REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

- **Replacement (Perform in the numerical order)**

① Remove the motor as stated in **8-21** Replacement of Drum D.D. motor.
② Remove the drum earth brush ass'y ②.
③ Remove the upper and lower drum assembly from main chassis ①.
④ Remove the drum FFC holder ③.

[Cares when replacing the drum]

1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.
   After that, perform also the electrical adjustment.
   • Playback switching point adjustment
   • X-position adjustment and check
   • Standard and x-3 slow tracking adjustment
7. After replacing the drum clean the drum.

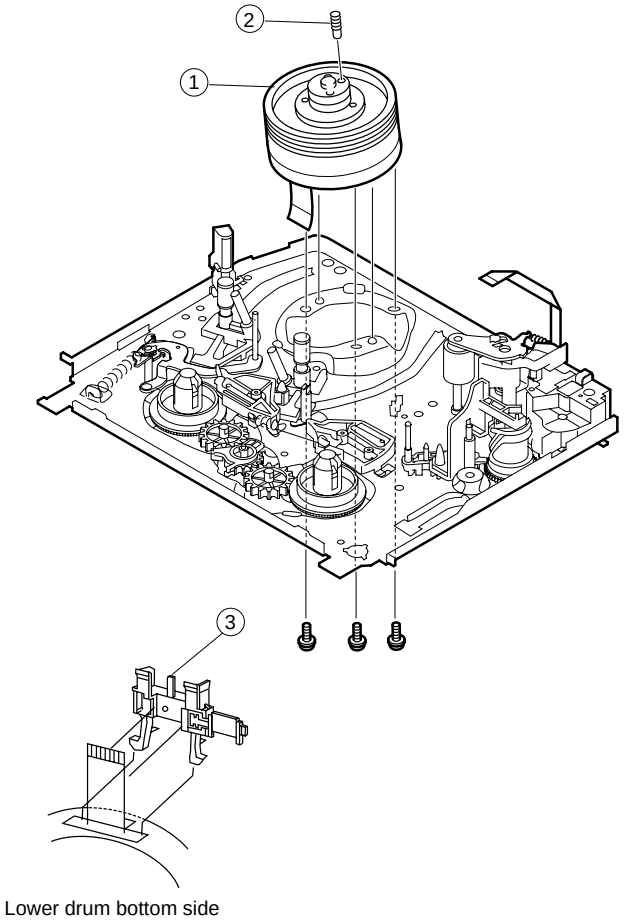


Figure 8-35.

8-23 ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- **Assemble the phase matching mechanism components in the following order.**

1. Assemble the reverse guide lever and pinch drive cam.
2. Mounting the shifter (on the back of the mechanism chassis).
3. Mounting the master cam (on the back of the mechanism chassis).
4. Assemble synchro gear.
5. Assemble the loading motor parts.

• PINCH DRIVE CAM AND REVERSE GUIDE LEVER ASSEMBLING METHOD.

(Place the following parts in position in numerical order.)

(1) Pinch drive cam ①
(2) Reverse guide spring ②
(3) Reverse guide lever ass'y ③
(4) Open guide ④

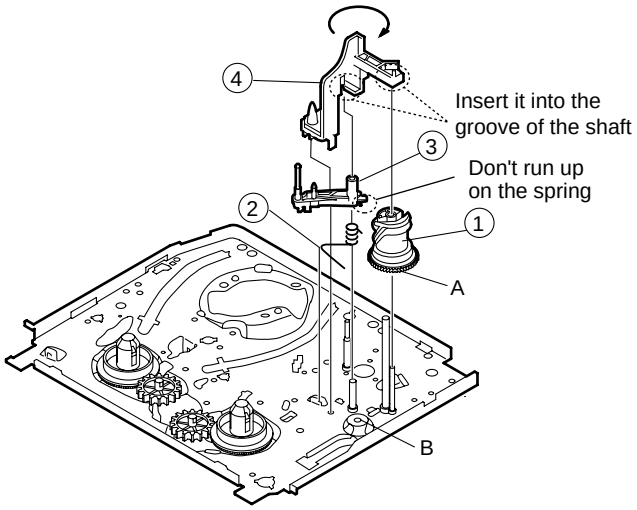
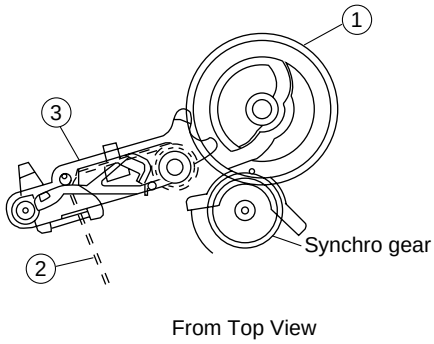
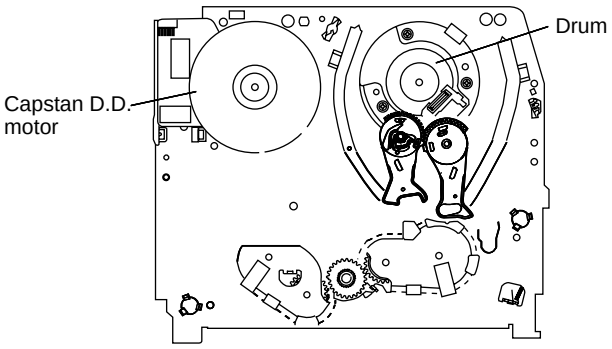


Figure 8-36.



From Top View

8-24 INSTALLING THE SHIFTER



(Bottom side of mechanism chassis)

Figure 8-37.

1. Make sure that the loading arm T and S are at the Phase-Matching point as shown below ⓐ.
2. Fix the shifter position setting part to the roading arm T position setting part as shown in figure ⓑ.
3. Make sure tension arm not run on the shifter as shown in figure ⓒ.

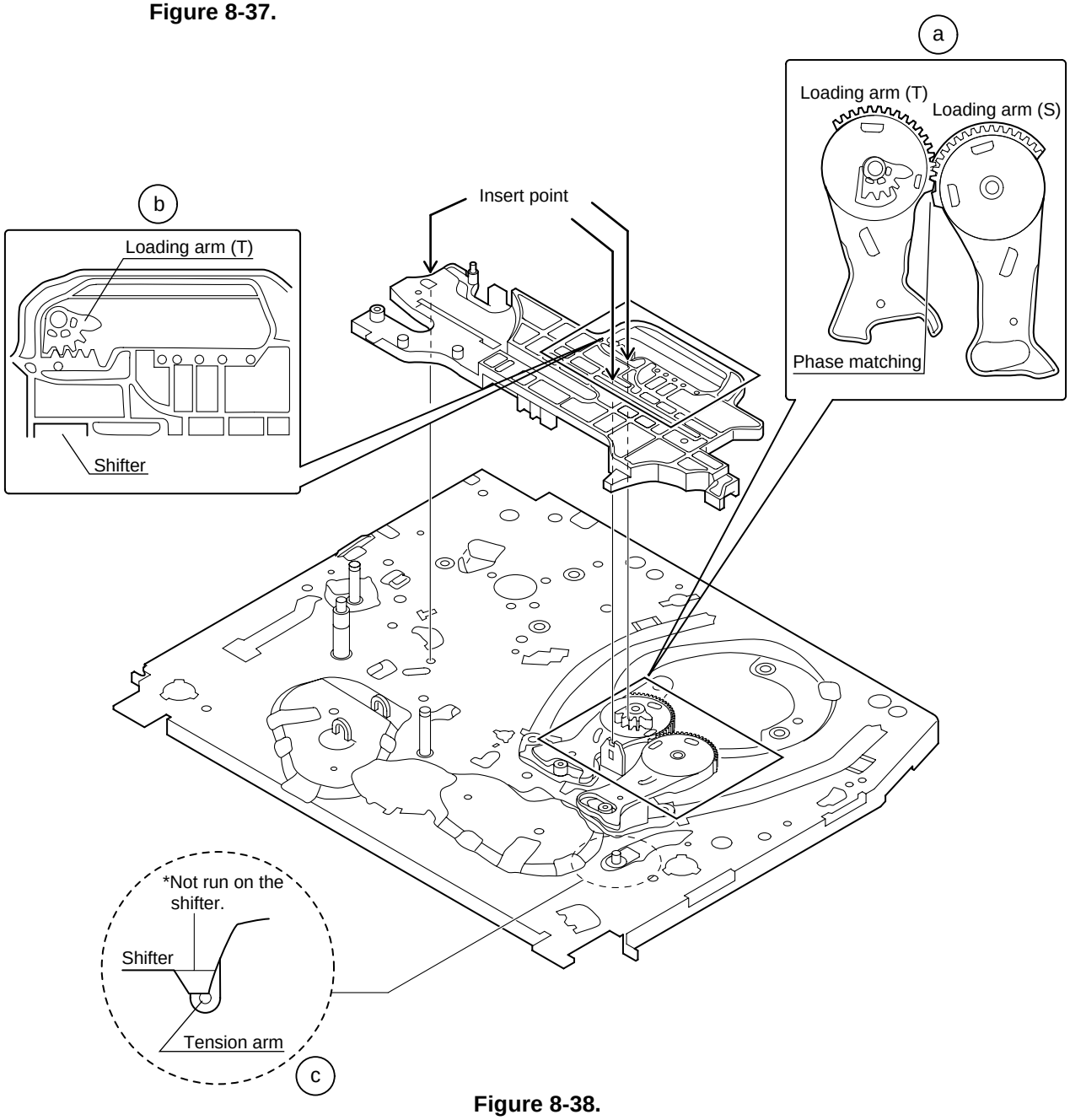


Figure 8-38.

8-25 INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at initial position. (Right side from bottom view)
2. Place the master cam in the position as shown below.
3. Fix the E ring.

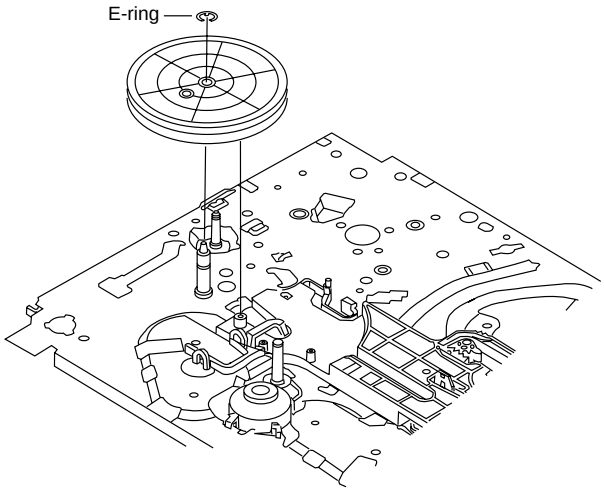


Figure 8-39-1.

4. Adjust the master cam and pinch drive cam, fix the synchro gear in correct position.

Note:
See the figure below for the phase matching between the master cam synchro gear and pinch drive cam.

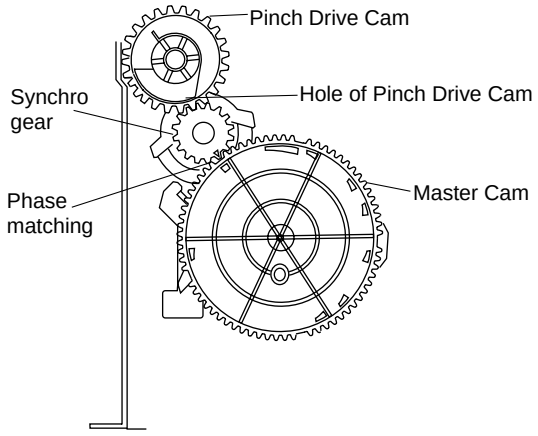


Figure 8-39-2.

8-26 REPLACEMENT OF LOADING MOTOR

- **Removal**

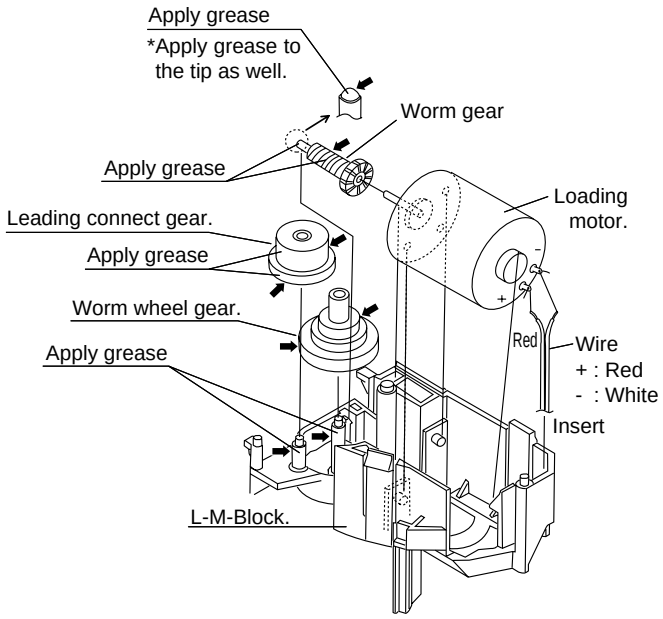


Figure 8-40.

- **Replacement**

Remove the loading motor, and install the replacement loading motor as shown below.

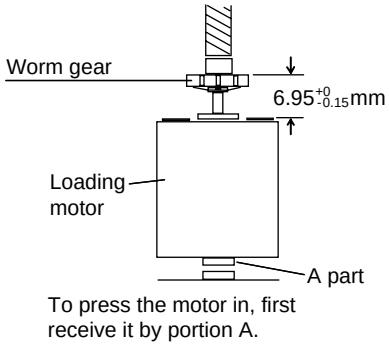
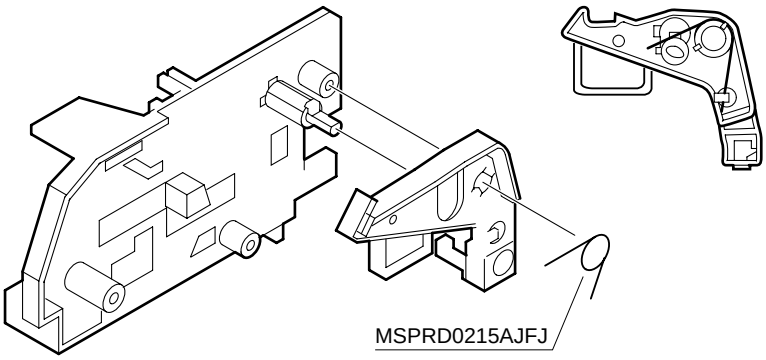


Figure 8-41.

The loading motor pressing-in must be less than 196N (20 kgf).
Adjust the distance between motor and pulley to $6.95^{+0}_{-0.15}$mm.

8-27 ASSEMBLY OF CASSETTE HOUSING

1. Proof lever, Proof lever spring and Holder R



*Proof lever spring fixing direction designated.

Figure 8-42.

2. Open lever, Sensor Plate and Drive Lever to Frame R

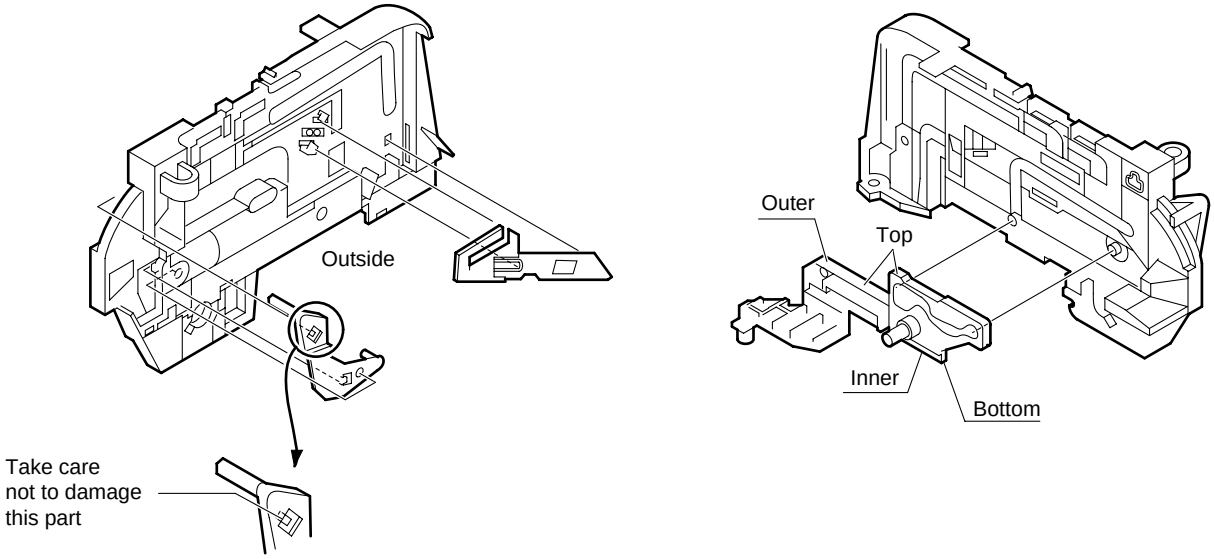


Figure 8-43.

3. Spring to Drive Arm R

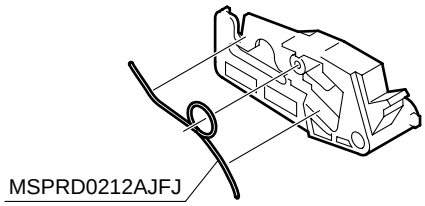


Figure 8-44.

4. Frame R, Frame L, Drive Arm R, Drive Arm L, Upper Plate.

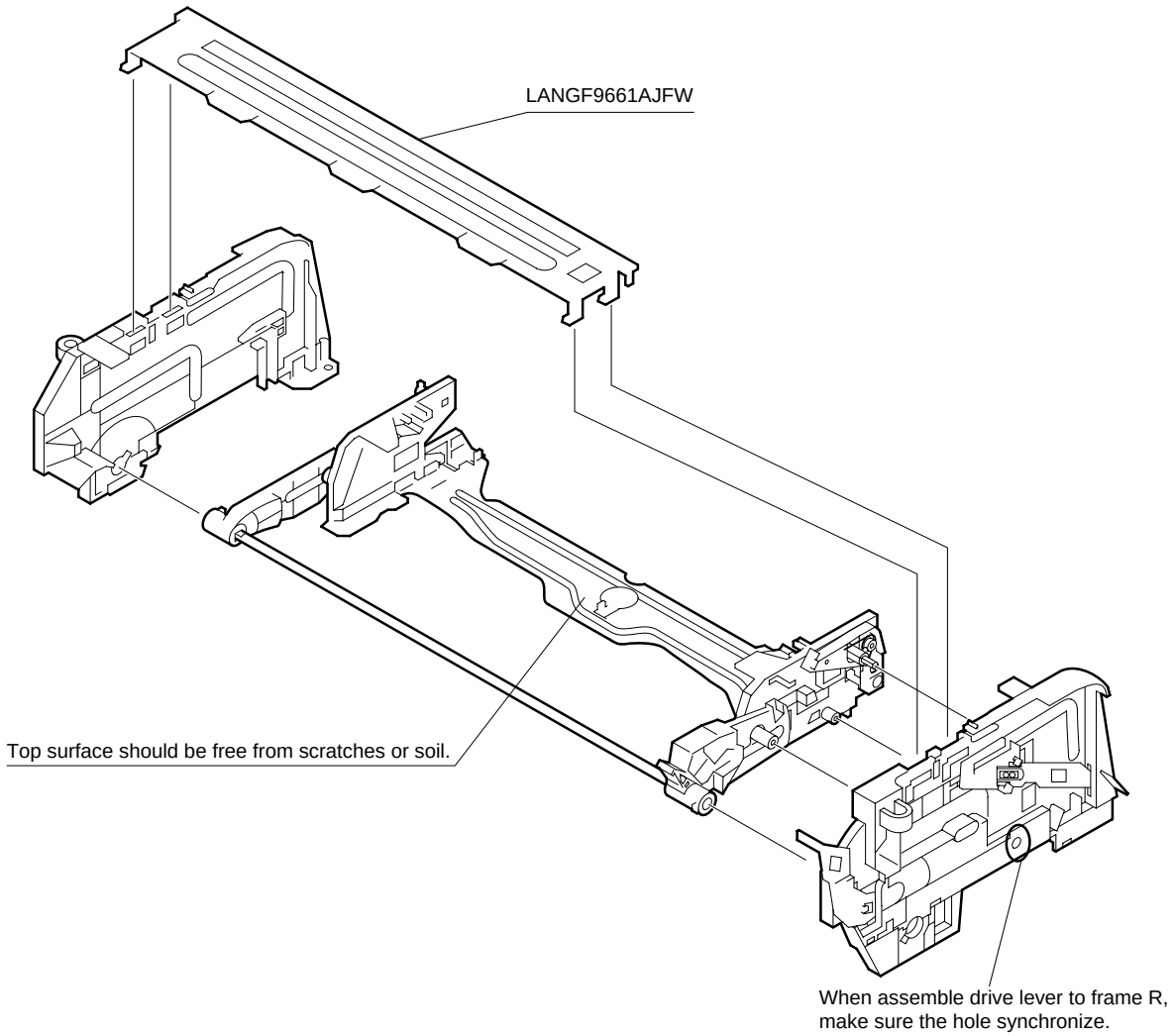
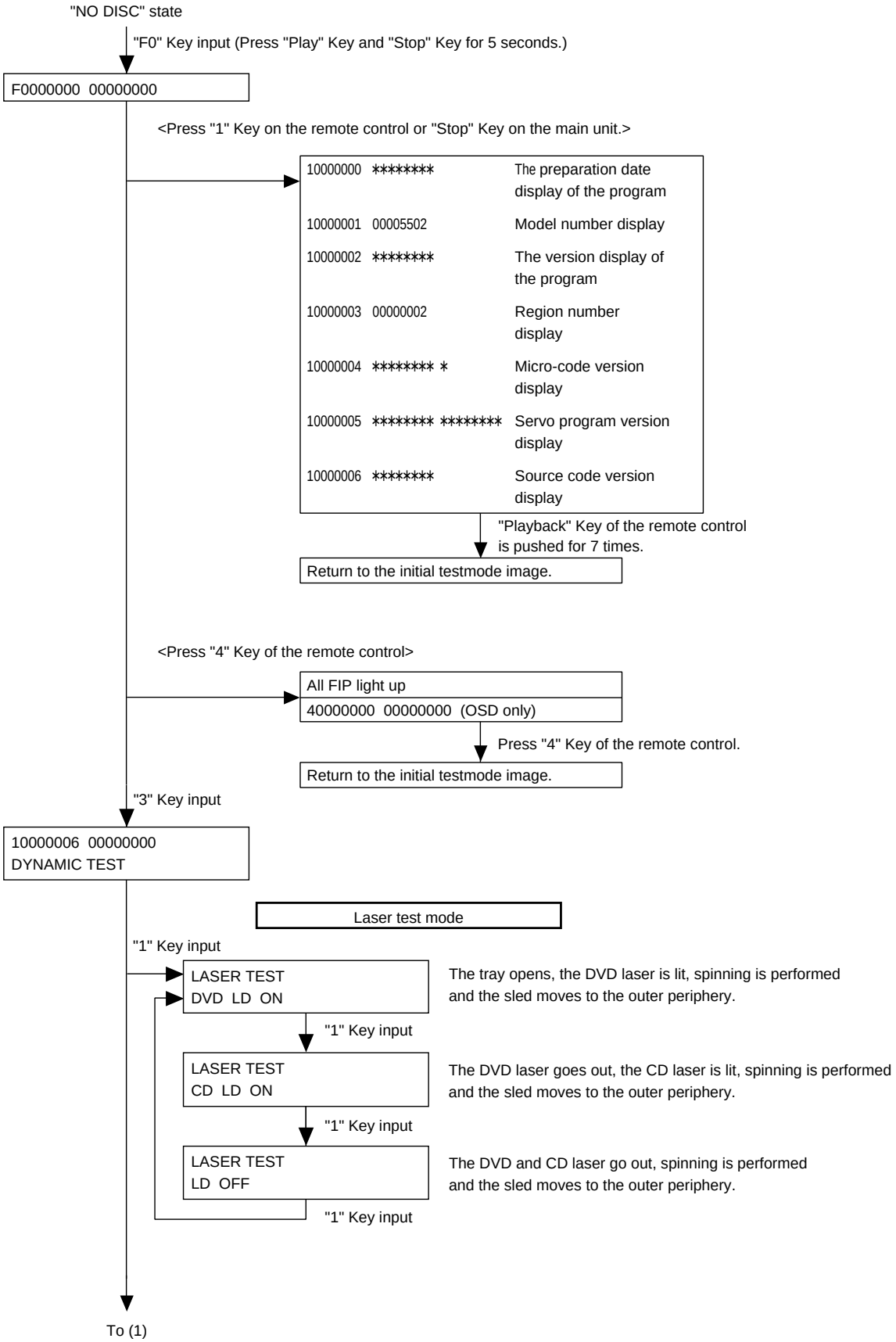
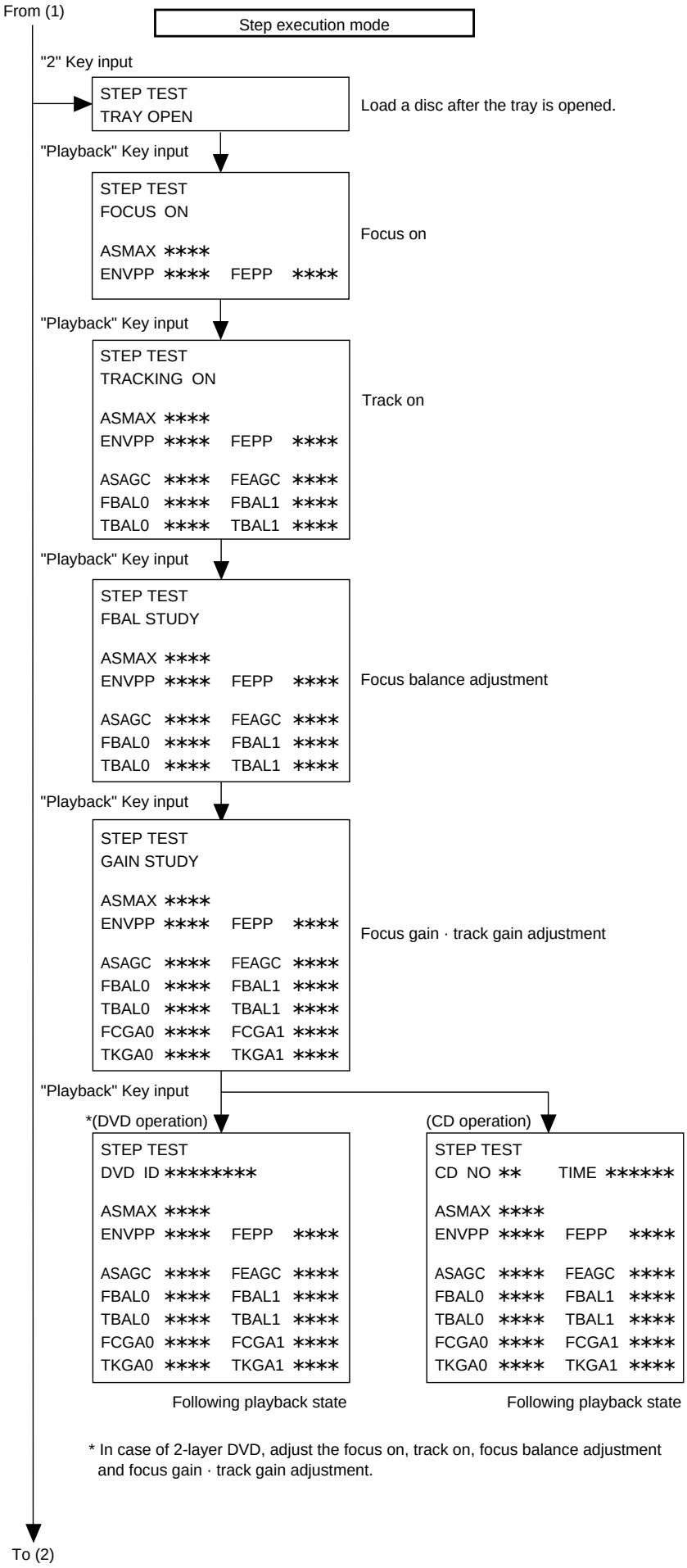
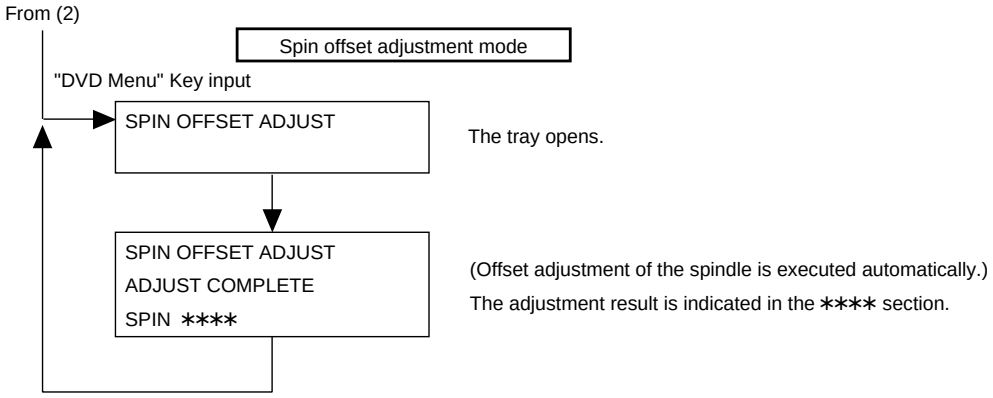

LANGF9661AJFW
Top surface should be free from scratches or soil.
When assemble drive lever to frame R, make sure the hole synchronize.

Figure 8-45.

9. TEST MODE


"NO DISC" state
"F0" Key input (Press "Play" Key and "Stop" Key for 5 seconds.)
F0000000 00000000
<Press "1" Key on the remote control or "Stop" Key on the main unit.>
10000000 ******** The preparation date display of the program
10000001 00005502 Model number display
10000002 ******** The version display of the program
10000003 00000002 Region number display
10000004 ******** * Micro-code version display
10000005 ******** ******** Servo program version display
10000006 ******** Source code version display
"Playback" Key of the remote control is pushed for 7 times.
Return to the initial testmode image.
<Press "4" Key of the remote control>
All FIP light up
40000000 00000000 (OSD only)
Press "4" Key of the remote control.
Return to the initial testmode image.
"3" Key input
10000006 00000000
DYNAMIC TEST
Laser test mode
"1" Key input
LASER TEST
DVD LD ON
The tray opens, the DVD laser is lit, spinning is performed and the sled moves to the outer periphery.
"1" Key input
LASER TEST
CD LD ON
The DVD laser goes out, the CD laser is lit, spinning is performed and the sled moves to the outer periphery.
"1" Key input
LASER TEST
LD OFF
The DVD and CD laser go out, spinning is performed and the sled moves to the outer periphery.
"1" Key input
To (1)


From (1)
Step execution mode
"2" Key input
STEP TEST
TRAY OPEN
Load a disc after the tray is opened.
"Playback" Key input
STEP TEST
FOCUS ON
ASMAX ****
ENVPP **** FEPP ****
Focus on
"Playback" Key input
STEP TEST
TRACKING ON
ASMAX ****
ENVPP **** FEPP ****
ASAGC **** FEAGC ****
FBAL0 **** FBAL1 ****
TBAL0 **** TBAL1 ****
Track on
"Playback" Key input
STEP TEST
FBAL STUDY
ASMAX ****
ENVPP **** FEPP ****
ASAGC **** FEAGC ****
FBAL0 **** FBAL1 ****
TBAL0 **** TBAL1 ****
Focus balance adjustment
"Playback" Key input
STEP TEST
GAIN STUDY
ASMAX ****
ENVPP **** FEPP ****
ASAGC **** FEAGC ****
FBAL0 **** FBAL1 ****
TBAL0 **** TBAL1 ****
FCGA0 **** FCGA1 ****
TKGA0 **** TKGA1 ****
Focus gain · track gain adjustment
"Playback" Key input
*(DVD operation)
(CD operation)
STEP TEST
DVD ID ********
ASMAX ****
ENVPP **** FEPP ****
ASAGC **** FEAGC ****
FBAL0 **** FBAL1 ****
TBAL0 **** TBAL1 ****
FCGA0 **** FCGA1 ****
TKGA0 **** TKGA1 ****
Following playback state
STEP TEST
CD NO ** TIME ******
ASMAX ****
ENVPP **** FEPP ****
ASAGC **** FEAGC ****
FBAL0 **** FBAL1 ****
TBAL0 **** TBAL1 ****
FCGA0 **** FCGA1 ****
TKGA0 **** TKGA1 ****
Following playback state
* In case of 2-layer DVD, adjust the focus on, track on, focus balance adjustment and focus gain · track gain adjustment.
To (2)


From (2)
Spin offset adjustment mode
"DVD Menu" Key input
SPIN OFFSET ADJUST
The tray opens.
SPIN OFFSET ADJUST
ADJUST COMPLETE
SPIN ****
(Offset adjustment of the spindle is executed automatically.)
The adjustment result is indicated in the **** section.

[ROM RENEWAL MODE]

1. A DVD itself and a personal computer are articulated as the right figure. Software for the renewal is started more.
2. A power source is put with pushing DVD's own "Playback" Key and "Halt" Key at the same time. (It keeps pushing it for 3 seconds.)

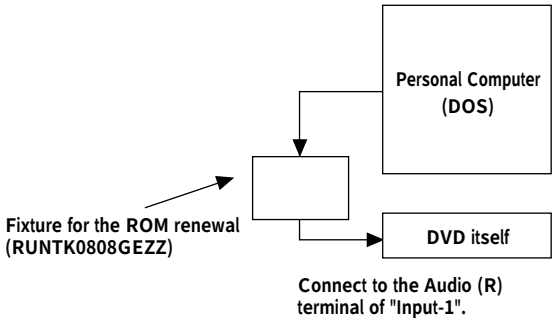
   R : OK **It is displayed.**

3. When "Y" is inputted in accordance with the personal computer display and date transfer indication is shown and renewal process is started normally when "Enter" Key is pushed.

   W : STR **It is displayed.**

4. When renewal is completed normally, it becomes POWER ON.

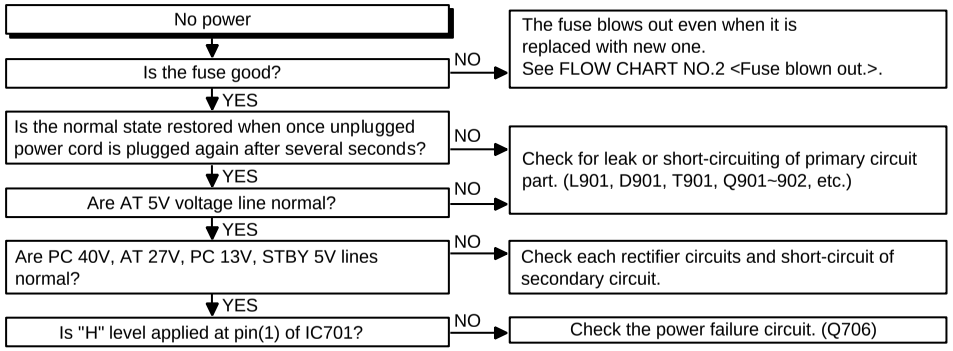
   DVD **It is displayed.**



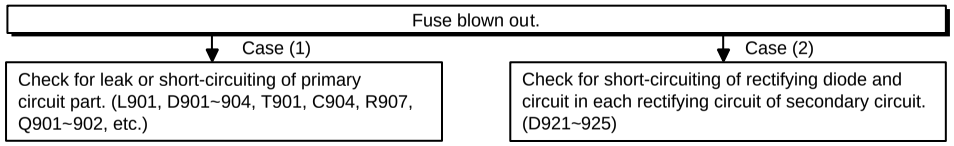
PART CODE	Price Code
RUNTK0808GEZZ	CD

10. TROUBLESHOOTING (VCR)

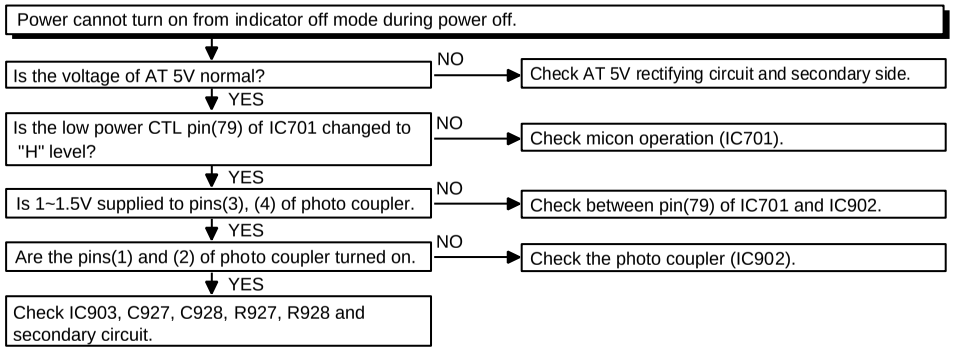
FLOW CHART NO.1


No power
Is the fuse good?
NO
The fuse blows out even when it is replaced with new one. See FLOW CHART NO.2 <Fuse blown out.>.
YES
Is the normal state restored when once unplugged power cord is plugged again after several seconds?
NO
Check for leak or short-circuiting of primary circuit part. (L901, D901, T901, Q901~902, etc.)
YES
Are AT 5V voltage line normal?
NO
YES
Are PC 40V, AT 27V, PC 13V, STBY 5V lines normal?
NO
Check each rectifier circuits and short-circuit of secondary circuit.
YES
Is "H" level applied at pin(1) of IC701?
NO
Check the power failure circuit. (Q706)

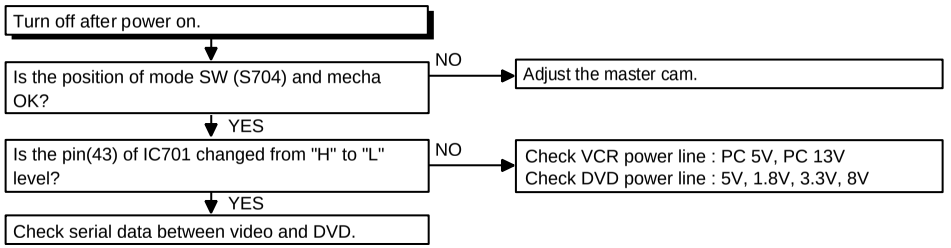
FLOW CHART NO.2


Fuse blown out.
Case (1)
Case (2)
Check for leak or short-circuiting of primary circuit part. (L901, D901~904, T901, C904, R907, Q901~902, etc.)
Check for short-circuiting of rectifying diode and circuit in each rectifying circuit of secondary circuit. (D921~925)

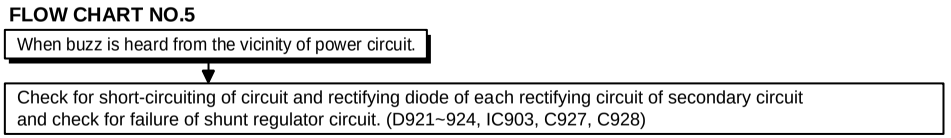
FLOW CHART NO.3


Power cannot turn on from indicator off mode during power off.
Is the voltage of AT 5V normal?
NO
Check AT 5V rectifying circuit and secondary side.
YES
Is the low power CTL pin(79) of IC701 changed to "H" level?
NO
Check micon operation (IC701).
YES
Is 1~1.5V supplied to pins(3), (4) of photo coupler.
NO
Check between pin(79) of IC701 and IC902.
YES
Are the pins(1) and (2) of photo coupler turned on.
NO
Check the photo coupler (IC902).
YES
Check IC903, C927, C928, R927, R928 and secondary circuit.

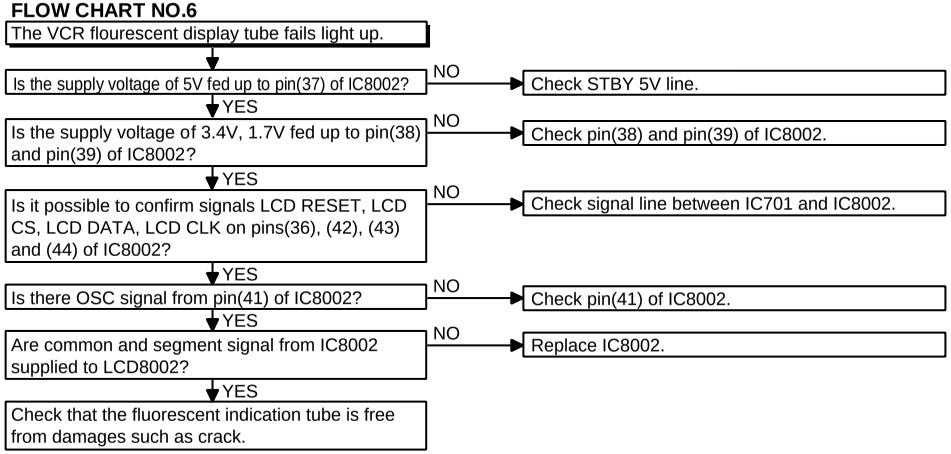
FLOW CHART NO.4


Turn off after power on.
Is the position of mode SW (S704) and mecha OK?
NO
Adjust the master cam.
YES
Is the pin(43) of IC701 changed from "H" to "L" level?
NO
Check VCR power line : PC 5V, PC 13V
Check DVD power line : 5V, 1.8V, 3.3V, 8V
YES
Check serial data between video and DVD.

FLOW CHART NO.5


When buzz is heard from the vicinity of power circuit.
Check for short-circuiting of circuit and rectifying diode of each rectifying circuit of secondary circuit and check for failure of shunt regulator circuit. (D921~924, IC903, C927, C928)

FLOW CHART NO.6


The VCR flouresecent display tube fails light up.
Is the supply voltage of 5V fed up to pin(37) of IC8002?
NO
Check STBY 5V line.
YES
Is the supply voltage of 3.4V, 1.7V fed up to pin(38) and pin(39) of IC8002?
NO
Check pin(38) and pin(39) of IC8002.
YES
Is it possible to confirm signals LCD RESET, LCD CS, LCD DATA, LCD CLK on pins(36), (42), (43) and (44) of IC8002?
NO
Check signal line between IC701 and IC8002.
YES
Is there OSC signal from pin(41) of IC8002?
NO
Check pin(41) of IC8002.
YES
Are common and segment signal from IC8002 supplied to LCD8002?
NO
Replace IC8002.
YES
Check that the fluorescent indication tube is free from damages such as crack.

FLOW CHART NO.7

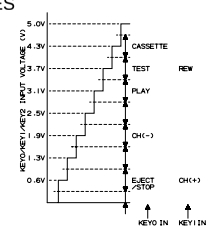
Key-in input is not received.

Does the key switch make good contact, when the cassette tape is inserted?
NO → Check switch contact.

YES

Is there the function control voltage inputted at the pins(88) and (89) of IC701?

YES



Check or replace the peripheral circuit of IC701.

FLOW CHART NO.8

No operation is possible from the infrared remote control.

Operation is possible from the VCR, but no operation is possible from the infrared remote control.

YES

Is the supply voltage of 5V fed up to pin(3) terminal of remote control receiver?
NO → Check AT 5V lines.

YES

Is "L" pulse sent out from pin(1) terminal of receiver when the infrared remote control is activated?
NO → Replace the remote control receiver or replace the remote control transmitter if necessary.

YES

Is "L" pulse inputted to pin(4) of IC701?
NO → Check line between remote control receiver thru to pin(4) of IC701.

YES

Replace IC701.

FLOW CHART NO.9

A cassette tape is not take in.

Is "L" level applied at pin(92) of IC701?

YES

Are start sensor shutter go to open when the cassette tape is inserted?
NO → Check start sensor shutter.

YES

Does pin(92) of IC701 change from "L" to "H" level when the cassette tape is inserted?
NO → Check S702, R735, C753 and pin(97) of IC701.

YES

Does pin(87) of IC701 change from "H" to "L" level when the cassette tape is inserted?.
NO → Check between start sensor and pin(87) of IC701.

YES

Does pin(10) of AC connector become to "H" level (4.7V) when the cassette tape is inserted?
NO → Check between pin(92) of IC701 and pin(10) of AC connector.

YES

Is the specified voltage (about 10V) applied at the loading motor terminal when the cassette tape is inserted?
NO → Replace capstan motor unit.

YES

Replace loading motor.

FLOW CHART NO.10

A cassette tape is taken in, but ejected at once.

Does the start sensor pulse at pin(87) of IC701 change from "L" to "H" level when the cassette tape is loaded?
NO → Check line start sensor and all the way up thru to pin(87) of IC701.

YES

Does the end sensor pulse at pin(86) of IC701 change from "L" to "H" level when the cassette tape is loaded?
NO → Check line end sensor and all the way up thru to pin(86) of IC701.

YES

Does the master cam mode shifter operate normally when the cassette tape is loaded?
NO → Check cam switch (A), (B) and all the way up thru to pins(93), (94) of IC701.

YES

Replace IC701.

FLOW CHART NO.11

The cassette tape fails to eject.

Does the capstan motor start when the EJECT button is pressed?
NO → See FLOW CHART NO.13. <The capstan motor fails to run.>

YES

Does the take-up reel disk turn when the capstan motor is running?
NO → Check reel disk and reel drive unit.

YES

Are pulses applied at pin(2) of IC701 when the take-up reel disk is turning?
NO → Check take-up reel sensor and all the way up thru to pin(2) of IC701.

YES

Is a "H" level (about 4.7V) applied at pin(10) of AC connector when a reel pulse has been inputted?
NO → Check pin(92) of IC701.

YES

Is the specified voltage applied at the loading motor terminal?
NO → Change the capstan motor unit.

YES

Does the loading motor run?
NO → Replace loading motor.

YES

Replace cassette cam, gear, etc.

FLOW CHART NO.12

No power is turned on.

Does power control(H) signal at pin(96) of IC701 change from "L" to "H" level?
NO → Check IC701.

YES

Does the base of Q1905 change from about 5V to 4.5V?
NO → Check the pin(96) of IC701 and all the way up thru to Q1905.

YES

Is 5V sent out of the emitter of Q1905?
NO → Check Q1905 and the AT 5V line.

FLOW CHART NO.13

The capstan motor fails to run.

- Is the voltage more than about 2.6V DC given out of pin(29) of IC701?
  - NO → Check IC701.
  - YES ↓
- Is the supply voltage of 5V fed up to pin(3) of AC connector?
  - NO → Check PC 5V line.
  - YES ↓
- Is the voltage more than 2.6V DC sent in pin(9) of AC connector?
  - NO → Check between the pin(9) of AC connector and all the way up thru to pin(29) of IC701.
  - YES ↓
- Is approx. 3.5V applied to the pin(5) of AC connector?
  - NO → Check the pin(91) of IC701.
  - YES ↓
- Is 29V applied to the pin(2) of AC connector normally?
  - NO → Check AT 27V line.
  - YES ↓

Replace capstan motor.

FLOW CHART NO.14

The drum motor fails to run.

- Is the voltage more than about 2.6V DC given out of pin(30) of IC701?
  - NO → Check IC701.
  - YES ↓
- Is the supply voltage of 5V fed up to pin(3) of AC connector?
  - NO → Check PC 5V line.
  - YES ↓
- Is the voltage more than about 2.6V applied at pin(12) of AC connector?
  - NO → Check between pin(30) of IC701 and all the way up to pin(12) of AC connector.
  - YES ↓
- Is the supply voltage of 12V fed up to pin(8) of AC connector?
  - NO → Check PC 12V line.
  - YES ↓

Check or replace drum motor.

FLOW CHART NO.15

The drum motor runs only for a few seconds.

- Is drum PG/FG signal given out of pin(11) of AC connector?
  - NO → Check or replace capstan motor or drum motor.
  - YES ↓
- Is drum PG/FG signal given out of pin(65) of IC701?
  - NO → Check line between pin(11) of AC connector and all the way up thru to pin(65) of IC701.
  - YES ↓
- Is V-H.SW.P pulse given out of pin(23) of IC701?
  - NO → Check IC701.
  - YES ↓

Replace IC701.

FLOW CHART NO.16

No head switching pulse.

- Is the drum motor rotating?
  - NO → See FLOW CHART NO.14, 15.
    <The drum motor fails to run>
    <The drum motor runs only for a few seconds>
  - YES ↓
- Is the drum PG signal and drum FG signal present on pin(65) of IC701, respectively?
  - NO → Replace IC701.
  - YES ↓

D-FG: About 5Vp-p　　D-PG: About 5Vp-p

- Are the drum PG/FG signals present on pin(11) of AC connector?
  - NO → Check line between pin(11) of AC connector and all the way up thru to pin(65) of IC701.
  - YES ↓

Check or replace capstan motor unit and drum motor unit.

FLOW CHART NO.17

Drum servo does not function.

- Is there 14.3MHz oscillation at pins(37) and (38) of IC701?
  - NO → Check peripheral circuit of X701.
  - YES ↓

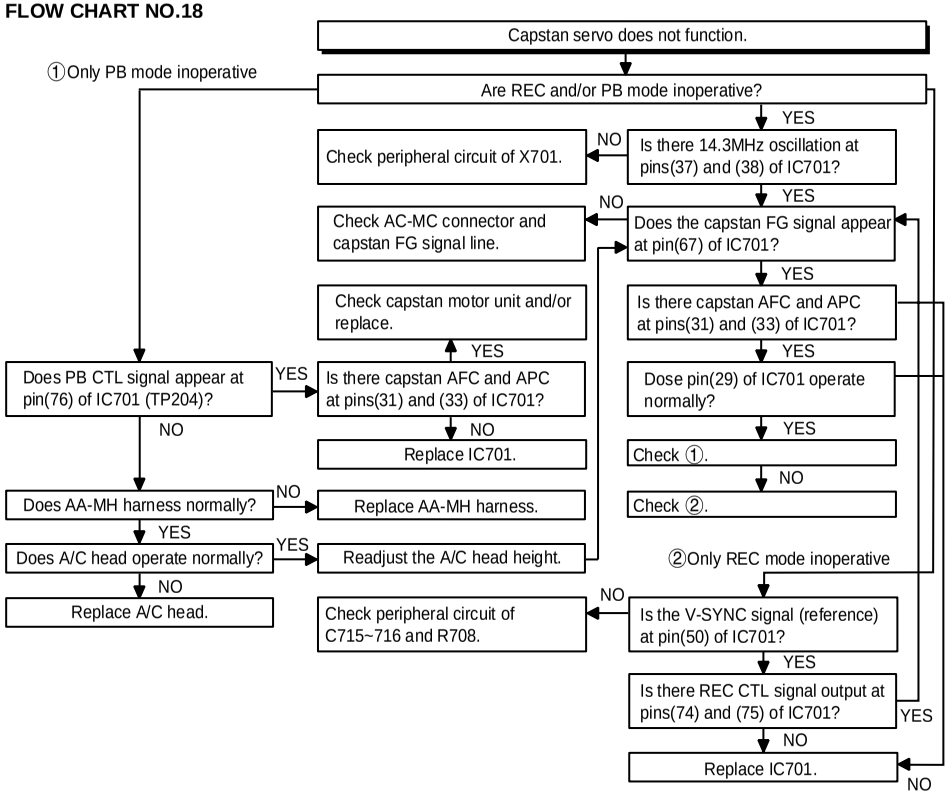
In PB mode:
- Is there drum PG/FG signal at pin(65) of IC701 present?
  - YES ↓
  - NO → Check drum PG/FG signal line.

In REC mode:
- Is there V-SYNC signal (reference) at pin(50) of IC701?
  - YES ↓
  - NO → Check peripheral circuit of C715, C716 and R708.

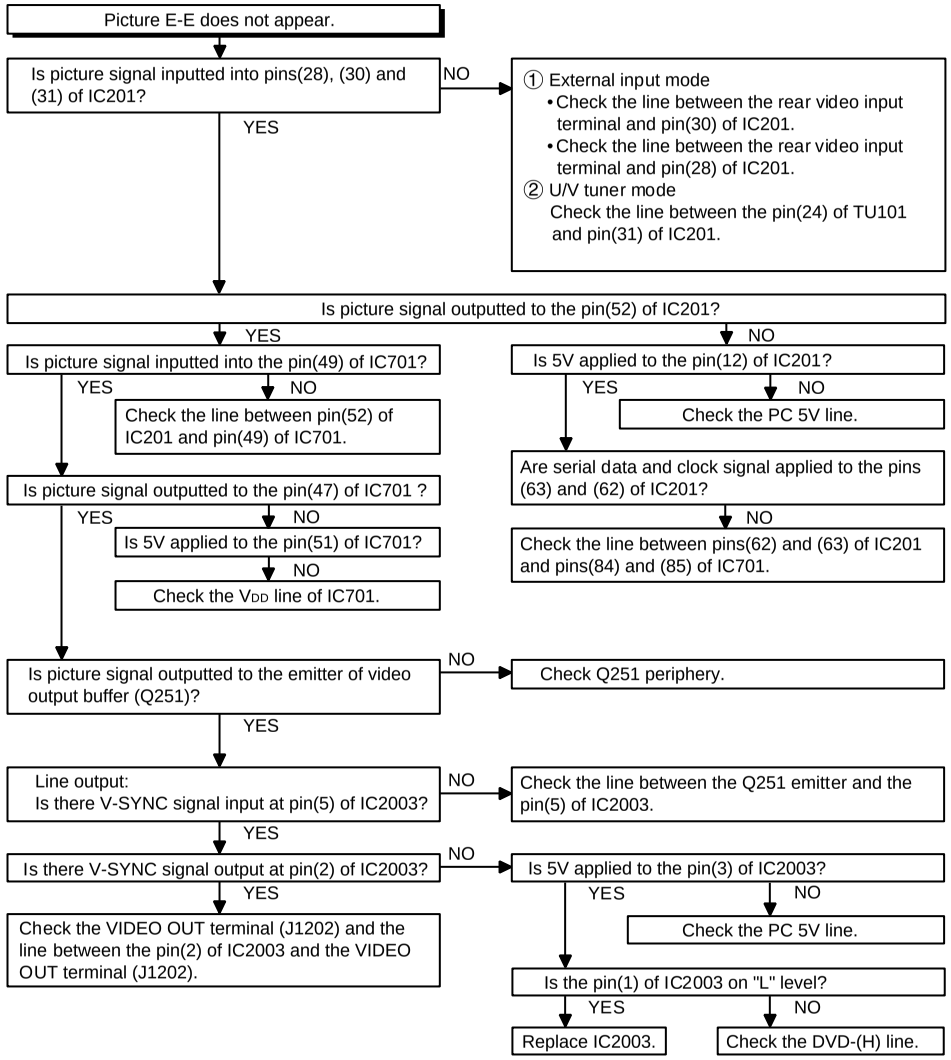
- Is the head switching pulse at pin(23) of IC701 present?
  - NO → See FLOW CHART NO.16.
    <No head switching pulse>
  - YES ↓
- Is the drum APC output at pin(34) of IC701 and drum AFC output at pin(32) of IC701 present?
  - NO → Replace IC701.
  - YES ↓
- Is the drum control voltage applied to pin(12) of AC connector?
  - NO → Is pin(30) of IC701 in high impedance?
  - YES ↓

Replace capstan motor or drum motor.

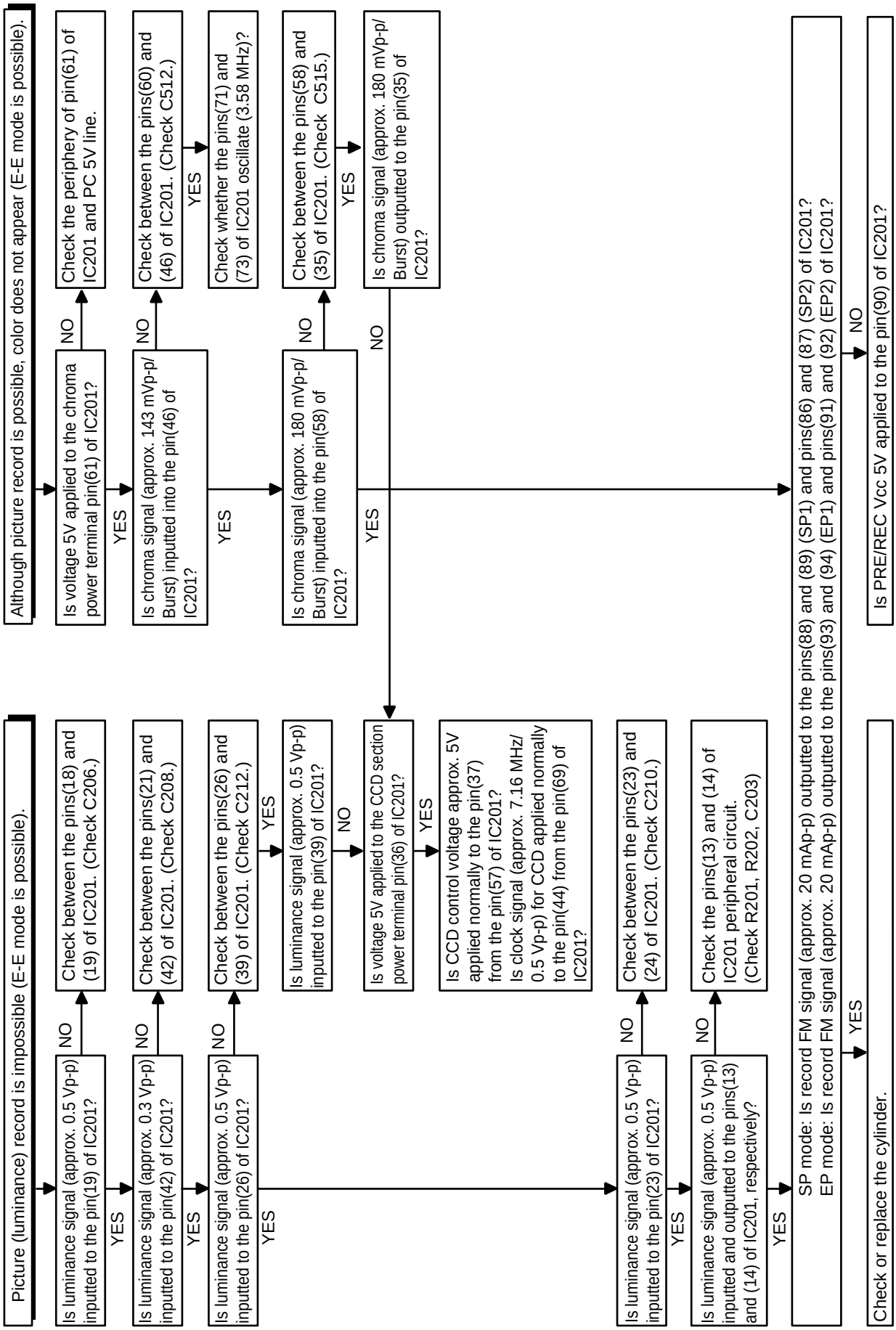
FLOW CHART NO.18



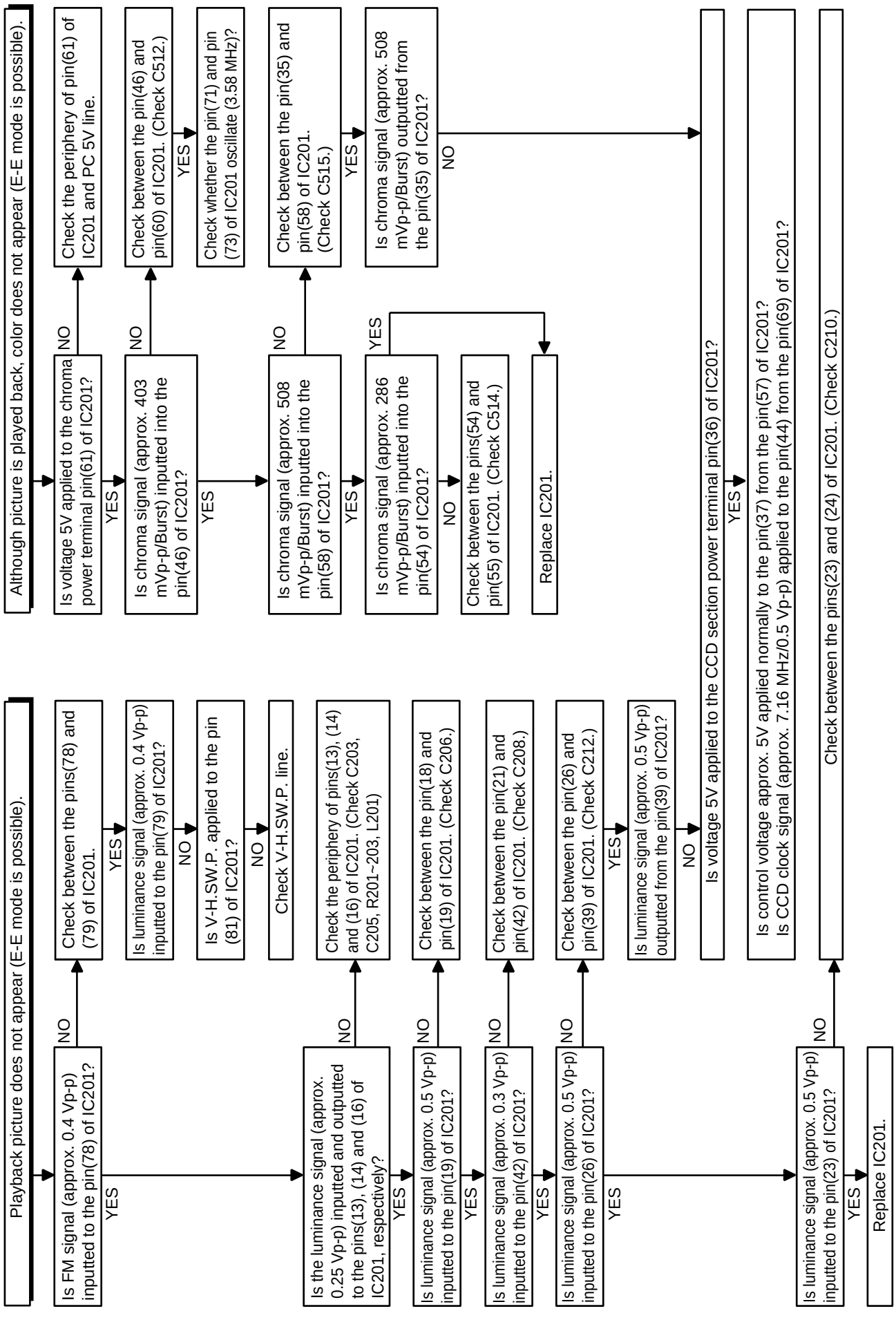
FLOW CHART NO.19


Picture E-E does not appear.
Is picture signal inputted into pins(28), (30) and (31) of IC201?
NO
① External input mode
•Check the line between the rear video input terminal and pin(30) of IC201.
•Check the line between the rear video input terminal and pin(28) of IC201.
② U/V tuner mode
Check the line between the pin(24) of TU101 and pin(31) of IC201.
YES
Is picture signal outputted to the pin(52) of IC201?
YES
NO
Is picture signal inputted into the pin(49) of IC701?
Is 5V applied to the pin(12) of IC201?
YES
NO
YES
NO
Check the line between pin(52) of IC201 and pin(49) of IC701.
Check the PC 5V line.
Are serial data and clock signal applied to the pins (63) and (62) of IC201?
Is picture signal outputted to the pin(47) of IC701 ?
YES
NO
NO
Is 5V applied to the pin(51) of IC701?
Check the line between pins(62) and (63) of IC201 and pins(84) and (85) of IC701.
NO
Check the VDD line of IC701.
Is picture signal outputted to the emitter of video output buffer (Q251)?
NO
Check Q251 periphery.
YES
Line output:
Is there V-SYNC signal input at pin(5) of IC2003?
NO
Check the line between the Q251 emitter and the pin(5) of IC2003.
YES
Is there V-SYNC signal output at pin(2) of IC2003?
NO
Is 5V applied to the pin(3) of IC2003?
YES
YES
NO
Check the VIDEO OUT terminal (J1202) and the line between the pin(2) of IC2003 and the VIDEO OUT terminal (J1202).
Check the PC 5V line.
Is the pin(1) of IC2003 on "L" level?
YES
NO
Replace IC2003.
Check the DVD-(H) line.

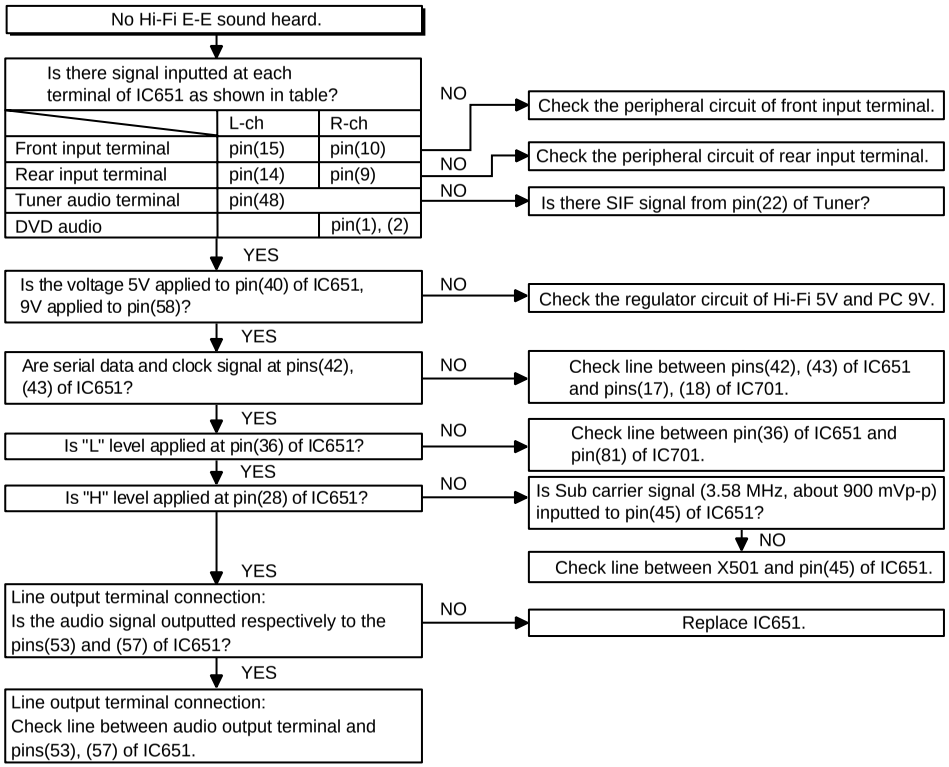
FLOW CHART NO.20


Picture (luminance) record is impossible (E-E mode is possible).
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(19) of IC201?
NO
Check between the pins(18) and (19) of IC201. (Check C206.)
YES
Is luminance signal (approx. 0.3 Vp-p) inputted to the pin(42) of IC201?
NO
Check between the pins(21) and (42) of IC201. (Check C208.)
YES
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(26) of IC201?
NO
Check between the pins(26) and (39) of IC201. (Check C212.)
YES
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(39) of IC201?
NO
Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
YES
Is CCD control voltage approx. 5V applied normally to the pin(57) of IC201?
Is clock signal (approx. 7.16 MHz/ 0.5 Vp-p) for CCD applied normally to the pin(44) from the pin(69) of IC201?
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(23) of IC201?
NO
Check between the pins(23) and (24) of IC201. (Check C210.)
YES
Is luminance signal (approx. 0.5 Vp-p) inputted and outputted to the pins(13) and (14) of IC201, respectively?
NO
Check the pins(13) and (14) of IC201 peripheral circuit. (Check R201, R202, C203)
YES
SP mode: Is record FM signal (approx. 20 mAp-p) outputted to the pins(88) and (89) (SP1) and pins(86) and (87) (SP2) of IC201?
EP mode: Is record FM signal (approx. 20 mAp-p) outputted to the pins(93) and (94) (EP1) and pins(91) and (92) (EP2) of IC201?
NO
Is PRE/REC Vcc 5V applied to the pin(90) of IC201?
YES
Check or replace the cylinder.
Although picture record is possible, color does not appear (E-E mode is possible).
Is voltage 5V applied to the chroma power terminal pin(61) of IC201?
NO
Check the periphery of pin(61) of IC201 and PC 5V line.
YES
Is chroma signal (approx. 143 mVp-p/ Burst) inputted into the pin(46) of IC201?
NO
Check between the pins(60) and (46) of IC201. (Check C512.)
YES
Check whether the pins(71) and (73) of IC201 oscillate (3.58 MHz)?
YES
Is chroma signal (approx. 180 mVp-p/ Burst) inputted into the pin(58) of IC201?
NO
Check between the pins(58) and (35) of IC201. (Check C515.)
YES
Is chroma signal (approx. 180 mVp-p/ Burst) outputted to the pin(35) of IC201?
NO
YES

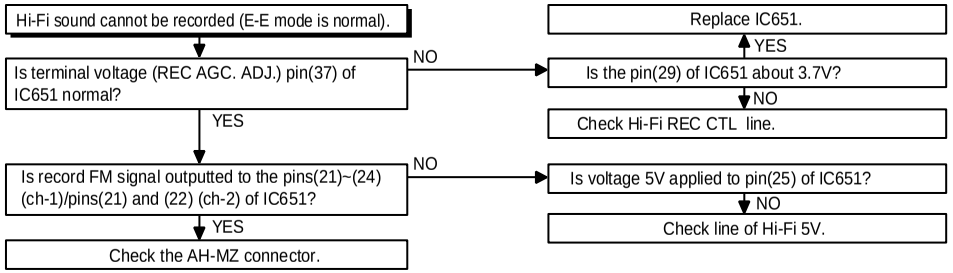
FLOW CHART NO.21


Playback picture does not appear (E-E mode is possible).
Is FM signal (approx. 0.4 Vp-p) inputted to the pin(78) of IC201?
NO
Check between the pins(78) and (79) of IC201.
YES
Is luminance signal (approx. 0.4 Vp-p) inputted to the pin(79) of IC201?
NO
Is V-H.SW.P. applied to the pin (81) of IC201?
NO
Check V-H.SW.P. line.
YES
Is the luminance signal (approx. 0.25 Vp-p) inputted and outputted to the pins(13), (14) and (16) of IC201, respectively?
NO
Check the periphery of pins(13), (14) and (16) of IC201. (Check C203, C205, R201~203, L201)
YES
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(19) of IC201?
NO
Check between the pin(18) and pin(19) of IC201. (Check C206.)
YES
Is luminance signal (approx. 0.3 Vp-p) inputted to the pin(42) of IC201?
NO
Check between the pin(21) and pin(42) of IC201. (Check C208.)
YES
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(26) of IC201?
NO
Check between the pin(26) and pin(39) of IC201. (Check C212.)
YES
Is luminance signal (approx. 0.5 Vp-p) outputted from the pin(39) of IC201?
NO
Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
YES
Is control voltage approx. 5V applied normally to the pin(37) from the pin(57) of IC201?
Is CCD clock signal (approx. 7.16 MHz/0.5 Vp-p) applied to the pin(44) from the pin(69) of IC201?
Is luminance signal (approx. 0.5 Vp-p) inputted to the pin(23) of IC201?
NO
Check between the pins(23) and (24) of IC201. (Check C210.)
YES
Replace IC201.
Although picture is played back, color does not appear (E-E mode is possible).
Is voltage 5V applied to the chroma power terminal pin(61) of IC201?
NO
Check the periphery of pin(61) of IC201 and PC 5V line.
YES
Is chroma signal (approx. 403 mVp-p/Burst) inputted into the pin(46) of IC201?
NO
Check between the pin(46) and pin(60) of IC201. (Check C512.)
YES
Check whether the pin(71) and pin (73) of IC201 oscillate (3.58 MHz)?
YES
Is chroma signal (approx. 508 mVp-p/Burst) inputted into the pin(58) of IC201?
NO
Check between the pin(35) and pin(58) of IC201. (Check C515.)
YES
Is chroma signal (approx. 286 mVp-p/Burst) inputted into the pin(54) of IC201?
YES
Is chroma signal (approx. 508 mVp-p/Burst) outputted from the pin(35) of IC201?
NO
NO
Check between the pins(54) and pin(55) of IC201. (Check C514.)
Replace IC201.

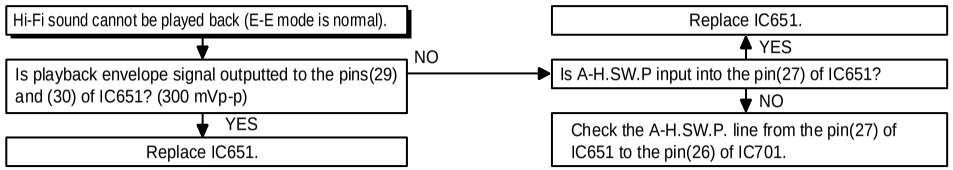
FLOW CHART NO.22


No Hi-Fi E-E sound heard.
Is there signal inputted at each terminal of IC651 as shown in table?
L-ch
R-ch
Front input terminal
pin(15)
pin(10)
Rear input terminal
pin(14)
pin(9)
Tuner audio terminal
pin(48)
DVD audio
pin(1), (2)
NO
Check the peripheral circuit of front input terminal.
NO
Check the peripheral circuit of rear input terminal.
NO
Is there SIF signal from pin(22) of Tuner?
YES
Is the voltage 5V applied to pin(40) of IC651, 9V applied to pin(58)?
NO
Check the regulator circuit of Hi-Fi 5V and PC 9V.
YES
Are serial data and clock signal at pins(42), (43) of IC651?
NO
Check line between pins(42), (43) of IC651 and pins(17), (18) of IC701.
YES
Is "L" level applied at pin(36) of IC651?
NO
Check line between pin(36) of IC651 and pin(81) of IC701.
YES
Is "H" level applied at pin(28) of IC651?
NO
Is Sub carrier signal (3.58 MHz, about 900 mVp-p) inputted to pin(45) of IC651?
NO
Check line between X501 and pin(45) of IC651.
YES
Line output terminal connection:
Is the audio signal outputted respectively to the pins(53) and (57) of IC651?
NO
Replace IC651.
YES
Line output terminal connection:
Check line between audio output terminal and pins(53), (57) of IC651.

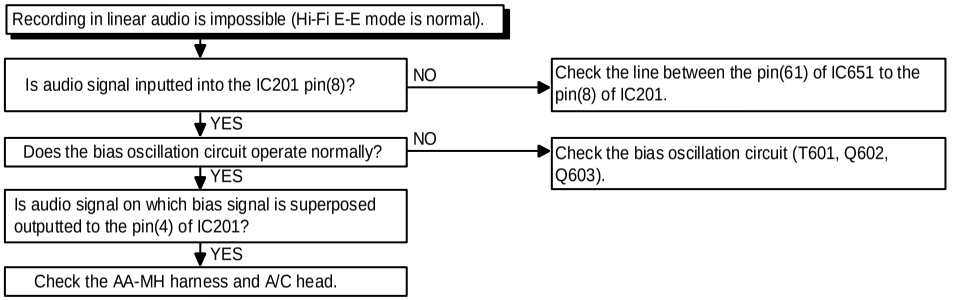
FLOW CHART NO.23


Hi-Fi sound cannot be recorded (E-E mode is normal).
Is terminal voltage (REC AGC. ADJ.) pin(37) of IC651 normal?
NO
Is the pin(29) of IC651 about 3.7V?
YES
NO
Check Hi-Fi REC CTL line.
Replace IC651.
YES
YES
Is record FM signal outputted to the pins(21)~(24) (ch-1)/pins(21) and (22) (ch-2) of IC651?
NO
Is voltage 5V applied to pin(25) of IC651?
YES
NO
Check line of Hi-Fi 5V.
YES
Check the AH-MZ connector.

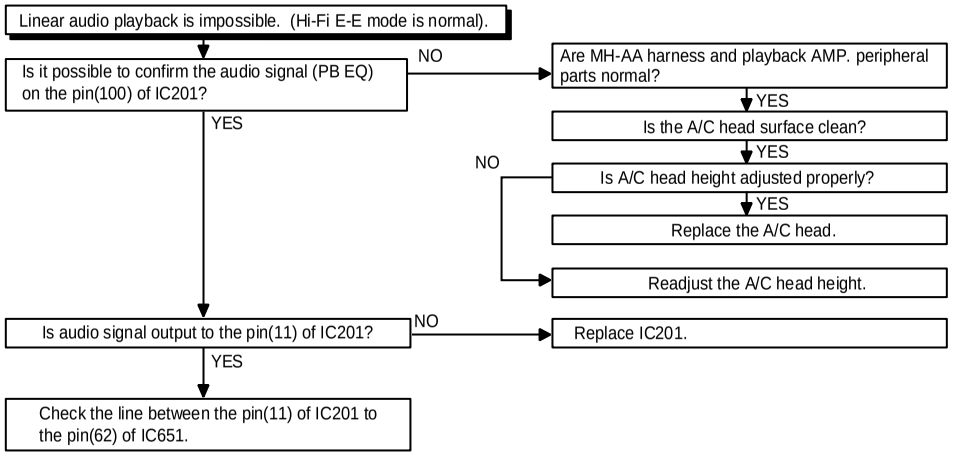
FLOW CHART NO.24


Hi-Fi sound cannot be played back (E-E mode is normal).
Is playback envelope signal outputted to the pins(29) and (30) of IC651? (300 mVp-p)
NO
Is A-H.SW.P input into the pin(27) of IC651?
YES
NO
Check the A-H.SW.P. line from the pin(27) of IC651 to the pin(26) of IC701.
Replace IC651.
YES
YES
Replace IC651.

FLOW CHART NO.25


Recording in linear audio is impossible (Hi-Fi E-E mode is normal).
Is audio signal inputted into the IC201 pin(8)?
NO
Check the line between the pin(61) of IC651 to the pin(8) of IC201.
YES
Does the bias oscillation circuit operate normally?
NO
Check the bias oscillation circuit (T601, Q602, Q603).
YES
Is audio signal on which bias signal is superposed outputted to the pin(4) of IC201?
YES
Check the AA-MH harness and A/C head.

FLOW CHART NO.26


Linear audio playback is impossible. (Hi-Fi E-E mode is normal).
Is it possible to confirm the audio signal (PB EQ) on the pin(100) of IC201?
NO
Are MH-AA harness and playback AMP. peripheral parts normal?
YES
Is the A/C head surface clean?
YES
YES
NO
Is A/C head height adjusted properly?
YES
Replace the A/C head.
Readjust the A/C head height.
YES
Is audio signal output to the pin(11) of IC201?
NO
Replace IC201.
YES
Check the line between the pin(11) of IC201 to the pin(62) of IC651.

(DVD)

FLOW CHART NO.1

The fluorescent display tube does not light.

Is the supply voltage of 5V fed up to pin(37) of IC8051?
- No → Check the STBY 5V line.
- Yes ↓

Is the supply voltage of 3.4V, 1.7V fed up to pin (38), (39) of IC8051?
- No → Check the pins(38) and (39) of IC8051 and their periphery circuit.
- Yes ↓

Check the signal lines of LCD RESET, LCD CS, LCD DATA, LCD CLK on pins(36), (42), (43), (44) of IC8051.
- No → Check signal line of LCD RESET, LCD CS, LCD DATA, LCD CLK on pins(6), (12), (8) (10) of IC801.
  - Yes → Check the signal lines between IC801 and IC8051.
- No → Check signal of LCD RESET, LCD CS, LCD DATA, LCD CLK on pins(5), (13), (9), (11) of IC801.
  - Yes → Check or replace IC801.
- Check signal line between IC3501 and IC801.
- Yes ↓

Is the OSC signal present on pin(41) of IC8051?
- No → Check periphery circuit of pin(41) of IC8051.
- Yes ↓

Are common and segment signals supplied from IC8051 (LCD driver IC) to LCD8052 (LCD)?
- No → Replace IC8051.
- Yes ↓

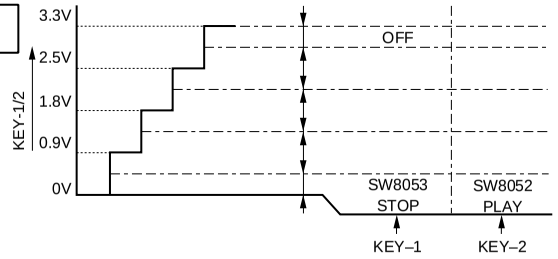
Check that the flourescent display tube is free from damages.

FLOW CHART NO.2

The key operation is disabled.

Is key switch contact and installation state normal?
- No → Replace key switch.
- Yes ↓

Is the control voltage normally into the pins(72), (73) of IC3501?



FLOW CHART NO.3

No operation is possible from the infrared remote control.

Operation is possible from the DVD, but no operation is possible from the infrared remote control.
- No → Replace the remote control receiver or replace the remote control transmitter if necessary.
- Yes ↓

Is 5V voltage supplied to the pin(3) terminal of remote control receiver?
- No → Check AT 5V line.
- Yes ↓

Is the "L" pulse sent out from pin(1) terminal of receiver when the infrared remote control is activated?
- No → Replace the remote control receiver.
- Yes ↓

Is pulse signal supplied to the pin(42) of IC3501?
- No → Check the line between the remote control receiver and the pin(42) of IC3501.
- Yes → Replace IC3501.

FLOW CHART NO.4

The disc tray cannot be opened and closed.

Is the LOAD signal inputted to R3763?
- No → Check pin(61) of IC3701. Check LOAD signal line between IC3701 and IC3704.
- Yes ↓

Is loading motor drive voltage outputted from the pins(11) and (12) of IC3704?
- No → Check IC3704.
  - Yes → Replace IC3704.
- Yes ↓

Is the loading motor drive voltage applied to the terminal of loading motor?
- No → Check the line between the IC3704 and the loading motor. Check CN3702.
- Yes ↓

Check for mechanism and gear engagement and breakage.

FLOW CHART NO.5

The [No Disc] indication. (In case of focus error)

Does the optical pickup move up and down after the disc is removed? (Checking of symptom.)
- No → See FLOW CHART NO.6. <The [No Disc] indication. (In case focus servo does not function.)>
- Yes ↓

Is FE signal outputted from the pin(22) of IC3301 when the disc is set?
- No → Is there input signal on the pins(49), (50), (51), (52) of IC3301?
  - Yes → Replace IC3301.
  - No → Check the connection of optical pickup cable. If it is normal, replace the optical pickup.
- Yes ↓

Is FE signal inputted into the pin(117) of IC3701?
- No → Check the line between the IC3301 and IC3701.
- Yes ↓

Check or replace IC3701.

FLOW CHART NO.6

The [No Disc] indication. (In case focus servo does not function.)

Is the focus control signal outputted to the pin(115) of IC3701?
- No → Check the pin(118) of IC3701 DAC power source periphery circuit. If it is normal, replace IC3701.
- Yes ↓

Is the focus control signal from the pin(115) of IC3701 inputted into the pin(23) of IC3704?
- No → Check the focus control signal line between the IC3701 and IC3704.
- Yes ↓

Is the focus control drive voltage outputted from the pins(1) and (28) of IC3704?
- No → Is 8V voltage applied to the pin(22) of IC3704?
  - No → Check M 8V line.
  - Yes → Check the pin(21) of IC3704 and replace IC3704.
- Yes ↓

Is the focus control drive voltage applied to the terminal of focus actuator?
- No → Check the line between the IC3704 and the focus actuator. Check CN3301.
- Yes ↓

Check the connection of optical pickup cable.
If it is normal, replace the traverse chassis unit.

FLOW CHART NO.7-1

The [No Disc] indication during DVD playback.
(When the laser beam does not light.)

Is the control signal outputted from IC3301?
- No → Check or replace IC3301.
- Yes ↓

Is 5V voltage applied to the emitter of Q3304?
- No → Check the S 5V line.
- Yes ↓

Is approx. 2V applied to the pin(21) of the pickup terminal? (See note.)
- No → Check the line between the Q3301, Q3302 and Q3304.
- Yes ↓

Check the connection of optical pickup cable.
If it is normal, replace the traverse chassis unit.

Note: Since the laser diode is very susceptible to static electricity, be careful of static electricity or electricity leak from the measuring equipment when confirming the voltage.

FLOW CHART NO.7-2

The [No Disc] indication during CD playback.
(When the laser beam does not light.)

Yes ↓

Is the control signal outputted from pin(4) of IC3301?
- No → Check or replace IC3301.
- Yes ↓

Is 5V voltage applied to the emitter of Q3303?
- No → Check the S 5V line.
- Yes ↓

Is approx. 2V applied to the pin(3) of CN3301?
- No → Check the line between the Q3301~Q3303.
- Yes ↓

Check the connection of optical pickup cable.
If it is normal, replace the traverse chassis unit.

Note: Since the laser diode is very susceptible to static electricity, be careful of static electricity or electricity leak from the measuring equipment when confirming the voltage.

FLOW CHART NO.8

Both picture and sound do not operate normally.(1)

Set the disc on the disc tray.

Yes ↓

Do you have loading done the disk by normality?
- No → Check the loading switch.
- Yes ↓

Is the level of RF signal which is outputted from pin(31) of IC3301 normal?
- No → Check for contamination of objective lens of optical pickup.
- Yes ↓

Replace the Main PWB unit.
- No → Replace traverse chassis unit.
- Yes ↓

See FLOW CHART NO.9 and NO.10.

FLOW CHART NO.9

Picture do not operate normally.

Set the disc on the disc tray.

Yes ↓

Are the video signals outputted to the pins of main unit connector CN3202?
CN3202 1pin S-Y
CN3202 3pin CB
CN3202 5pin S-C
CN3202 7pin CR
- No → Check the main unit. (IC3601, Q3201~Q3204 periphery circuit.)

Check the PC 5V line.

Yes ↓

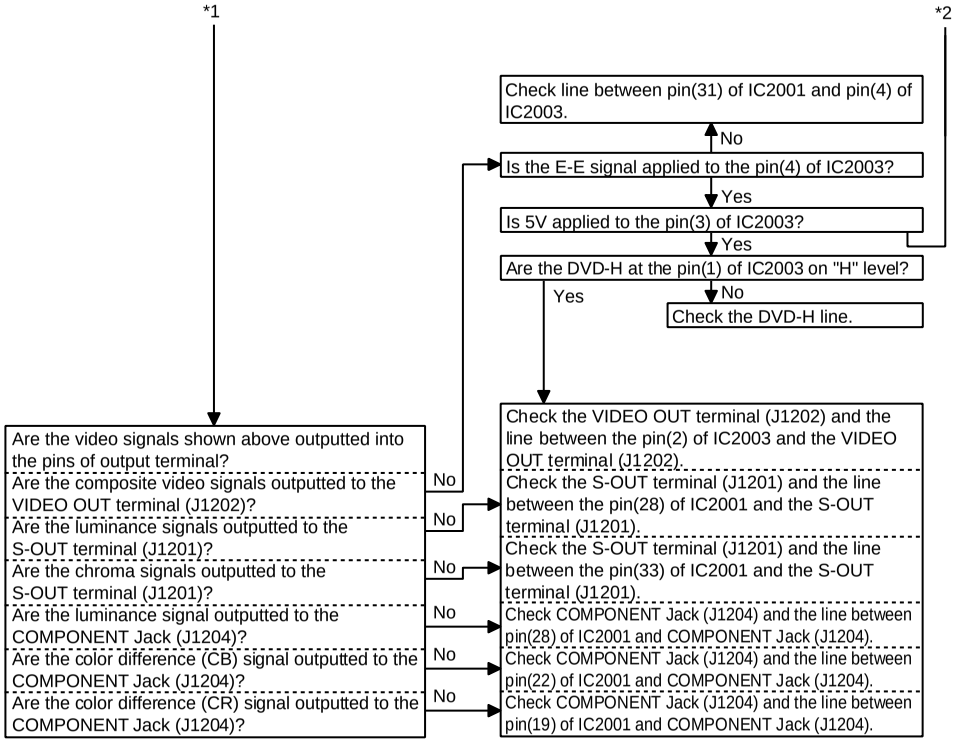
Are the video signals shown above inputted into the pins of IC2001?
IC2001 2pin S-C
IC2001 6pin S-Y
IC2001 14pin CB
IC2001 16pin CR
- No → Check between CN3202 and CN202.

Yes ↓

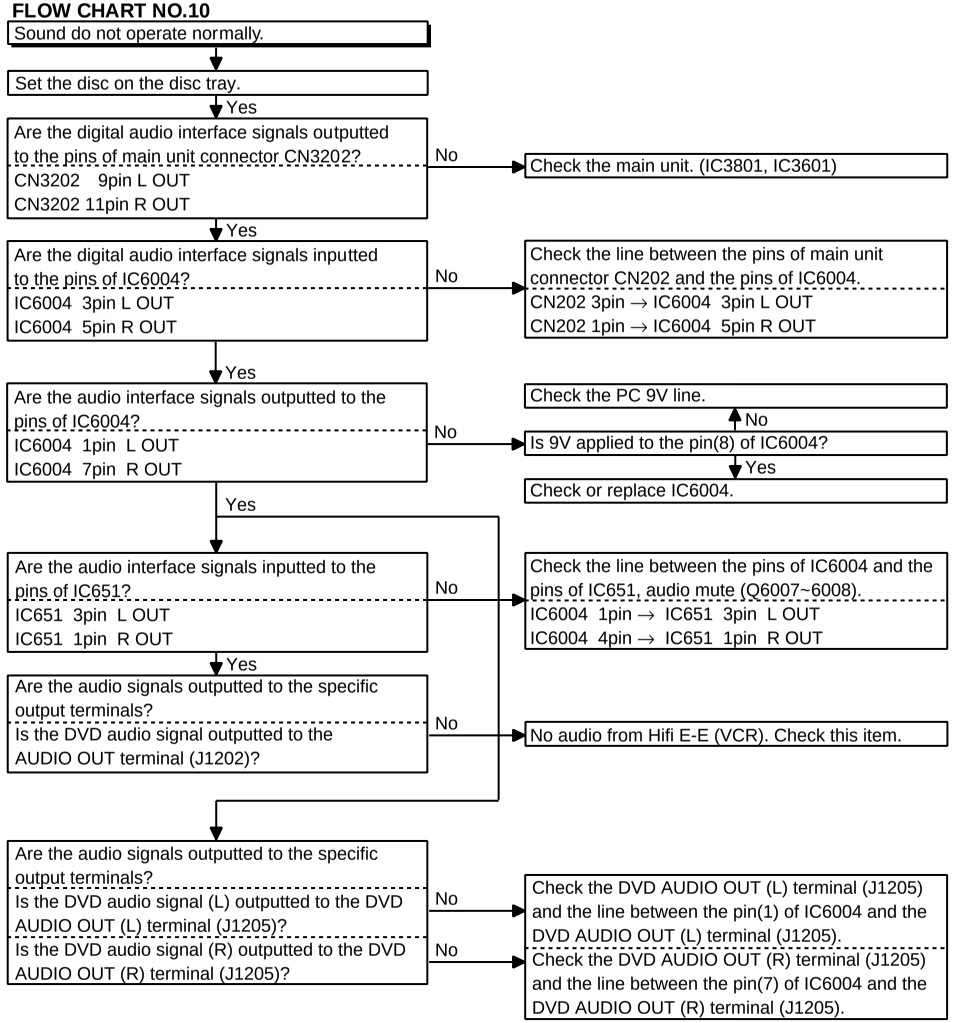
Are the video signals outputted to each pins of IC2001?
IC2001 33pin S-C
IC2001 31pin COMP
IC2001 28pin S-Y
IC2001 22pin CB
IC2001 19pin CR
- No → Is 5V applied to the pins(1) and (13) of IC2001?
  - No → Check the PC 5V line.
  - Yes → Are the V-MUTE lines at the pins(3) and (15) of IC2001 on "H" level?
    - No → Check the V-MUTE line.
    - Yes → Replace IC2001.

*1

*2


*1
*2
Check line between pin(31) of IC2001 and pin(4) of IC2003.
No
Is the E-E signal applied to the pin(4) of IC2003?
Yes
Is 5V applied to the pin(3) of IC2003?
Yes
Are the DVD-H at the pin(1) of IC2003 on "H" level?
Yes
No
Check the DVD-H line.
Are the video signals shown above outputted into the pins of output terminal?
Are the composite video signals outputted to the VIDEO OUT terminal (J1202)?
Are the luminance signals outputted to the S-OUT terminal (J1201)?
Are the chroma signals outputted to the S-OUT terminal (J1201)?
Are the luminance signal outputted to the COMPONENT Jack (J1204)?
Are the color difference (CB) signal outputted to the COMPONENT Jack (J1204)?
Are the color difference (CR) signal outputted to the COMPONENT Jack (J1204)?
No
No
No
No
No
No
Check the VIDEO OUT terminal (J1202) and the line between the pin(2) of IC2003 and the VIDEO OUT terminal (J1202).
Check the S-OUT terminal (J1201) and the line between the pin(28) of IC2001 and the S-OUT terminal (J1201).
Check the S-OUT terminal (J1201) and the line between the pin(33) of IC2001 and the S-OUT terminal (J1201).
Check COMPONENT Jack (J1204) and the line between pin(28) of IC2001 and COMPONENT Jack (J1204).
Check COMPONENT Jack (J1204) and the line between pin(22) of IC2001 and COMPONENT Jack (J1204).
Check COMPONENT Jack (J1204) and the line between pin(19) of IC2001 and COMPONENT Jack (J1204).

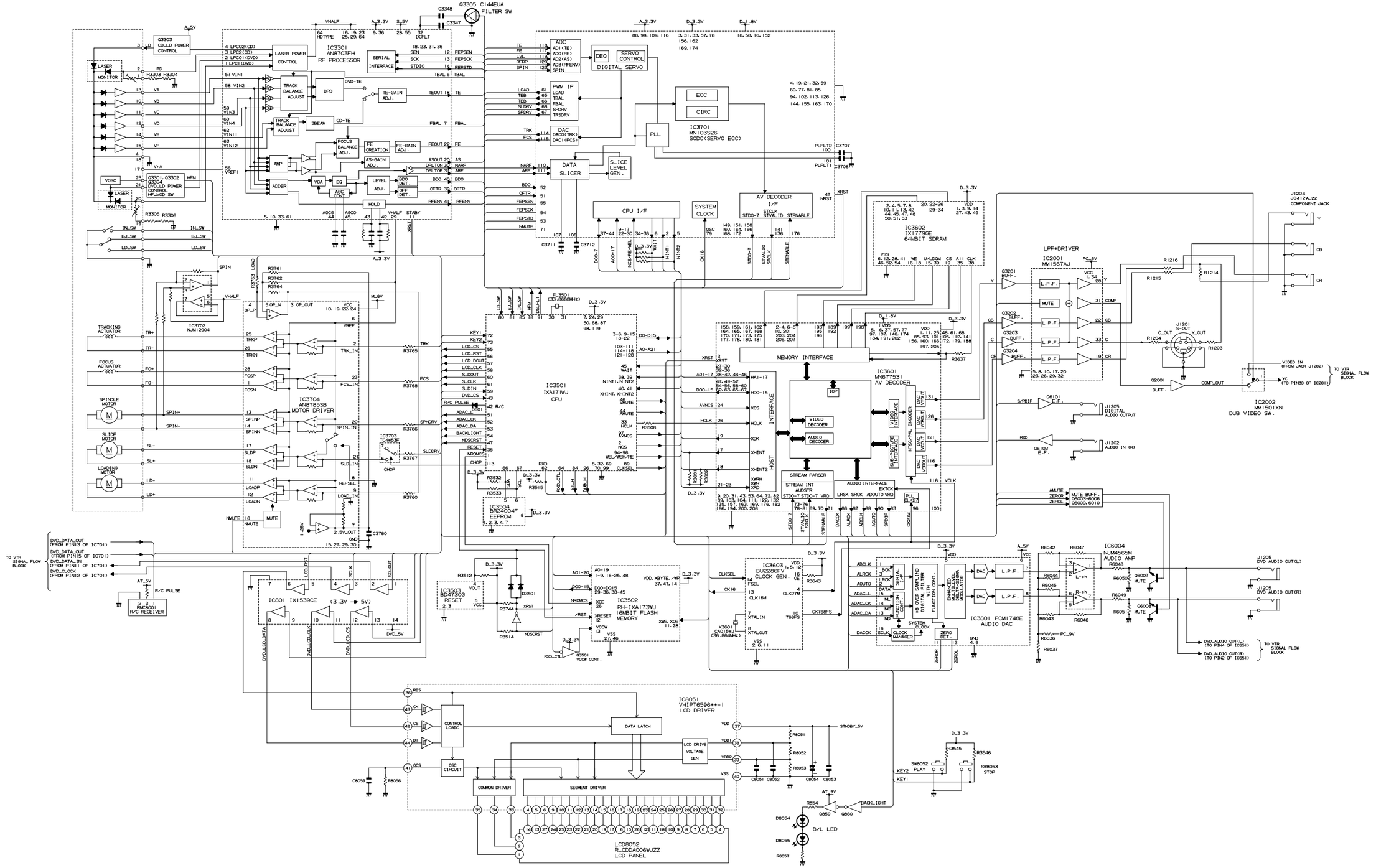
FLOW CHART NO.10


Sound do not operate normally.
Set the disc on the disc tray.
Yes
Are the digital audio interface signals outputted to the pins of main unit connector CN3202?
CN3202 9pin L OUT
CN3202 11pin R OUT
No
Check the main unit. (IC3801, IC3601)
Yes
Are the digital audio interface signals inputted to the pins of IC6004?
IC6004 3pin L OUT
IC6004 5pin R OUT
No
Check the line between the pins of main unit connector CN202 and the pins of IC6004.
CN202 3pin → IC6004 3pin L OUT
CN202 1pin → IC6004 5pin R OUT
Yes
Are the audio interface signals outputted to the pins of IC6004?
IC6004 1pin L OUT
IC6004 7pin R OUT
No
Check the PC 9V line.
No
Is 9V applied to the pin(8) of IC6004?
Yes
Check or replace IC6004.
Yes
Are the audio interface signals inputted to the pins of IC651?
IC651 3pin L OUT
IC651 1pin R OUT
No
Check the line between the pins of IC6004 and the pins of IC651, audio mute (Q6007~6008).
IC6004 1pin → IC651 3pin L OUT
IC6004 4pin → IC651 1pin R OUT
Yes
Are the audio signals outputted to the specific output terminals?
Is the DVD audio signal outputted to the AUDIO OUT terminal (J1202)?
No
No audio from Hifi E-E (VCR). Check this item.
Are the audio signals outputted to the specific output terminals?
Is the DVD audio signal (L) outputted to the DVD AUDIO OUT (L) terminal (J1205)?
Is the DVD audio signal (R) outputted to the DVD AUDIO OUT (R) terminal (J1205)?
No
No
Check the DVD AUDIO OUT (L) terminal (J1205) and the line between the pin(1) of IC6004 and the DVD AUDIO OUT (L) terminal (J1205).
Check the DVD AUDIO OUT (R) terminal (J1205) and the line between the pin(7) of IC6004 and the DVD AUDIO OUT (R) terminal (J1205).

- M E M O -

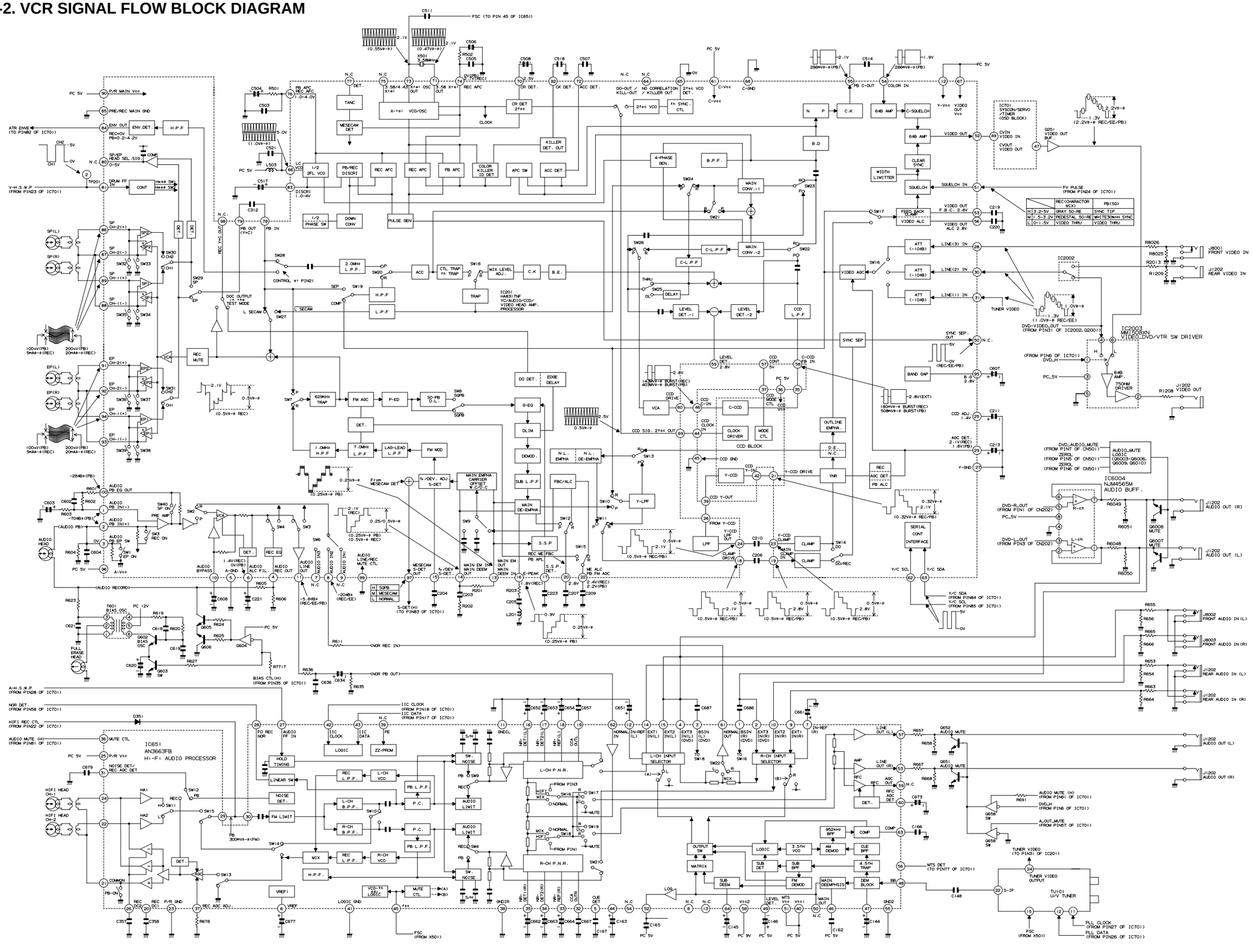
DV-NC70U/C
DV-NC72U

11. BLOCK DIAGRAMS 11-1. MAIN BLOCK DIAGRAM



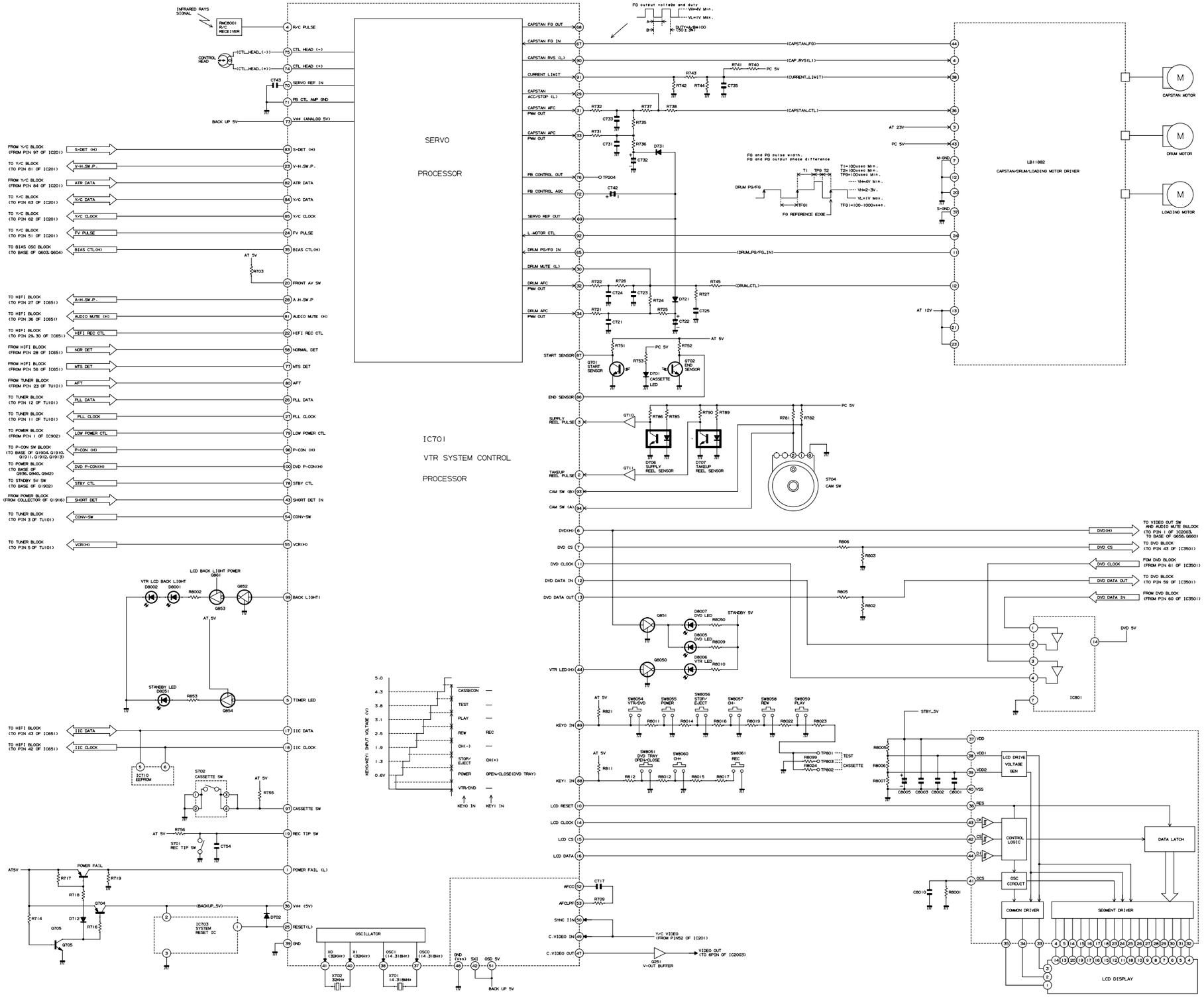
DV-NC70U/C
DV-NC72U

11-2. VCR SIGNAL FLOW BLOCK DIAGRAM



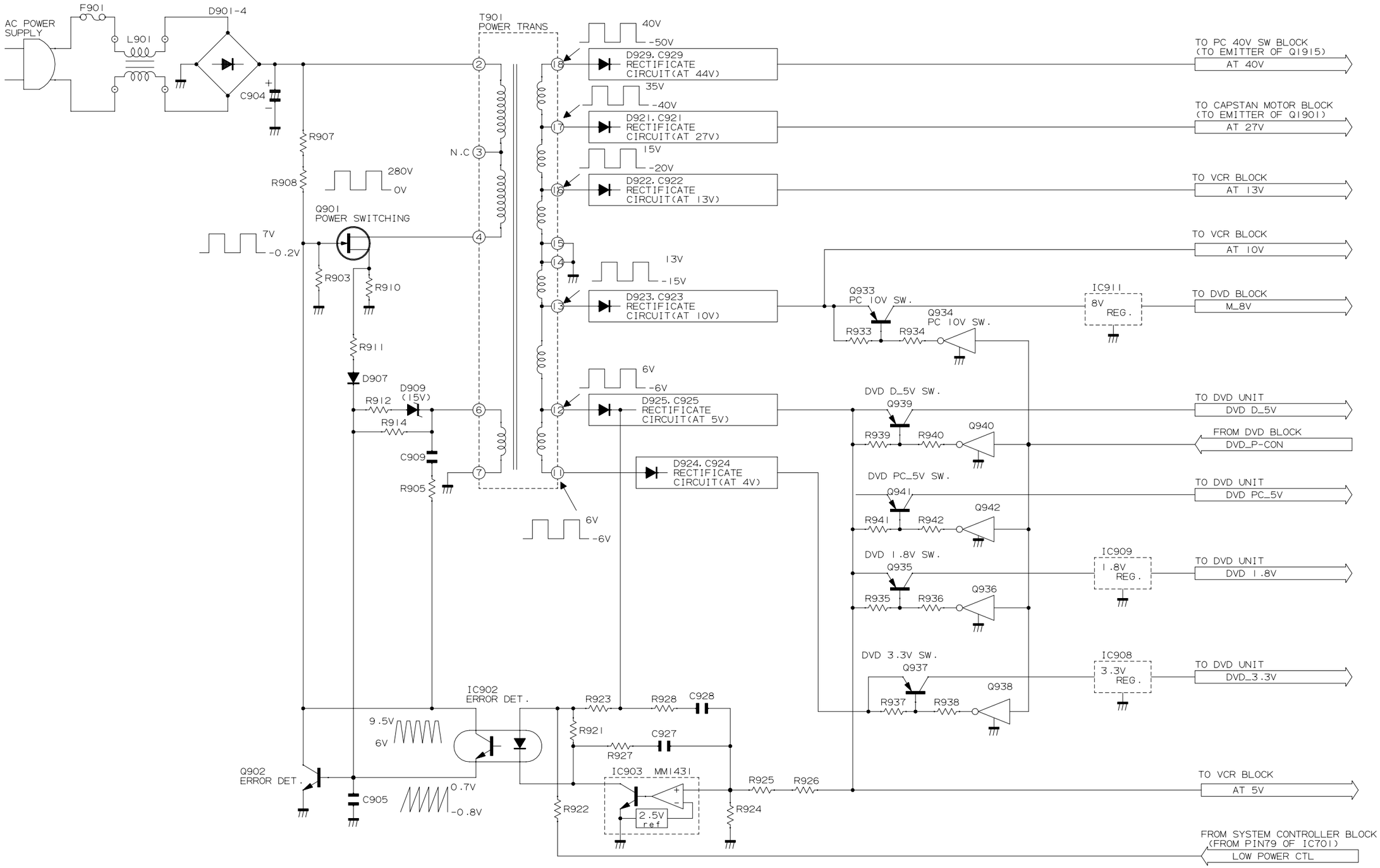
DV-NC70U/C
DV-NC72U

11-3. VCR SERVO BLOCK DIAGRAM



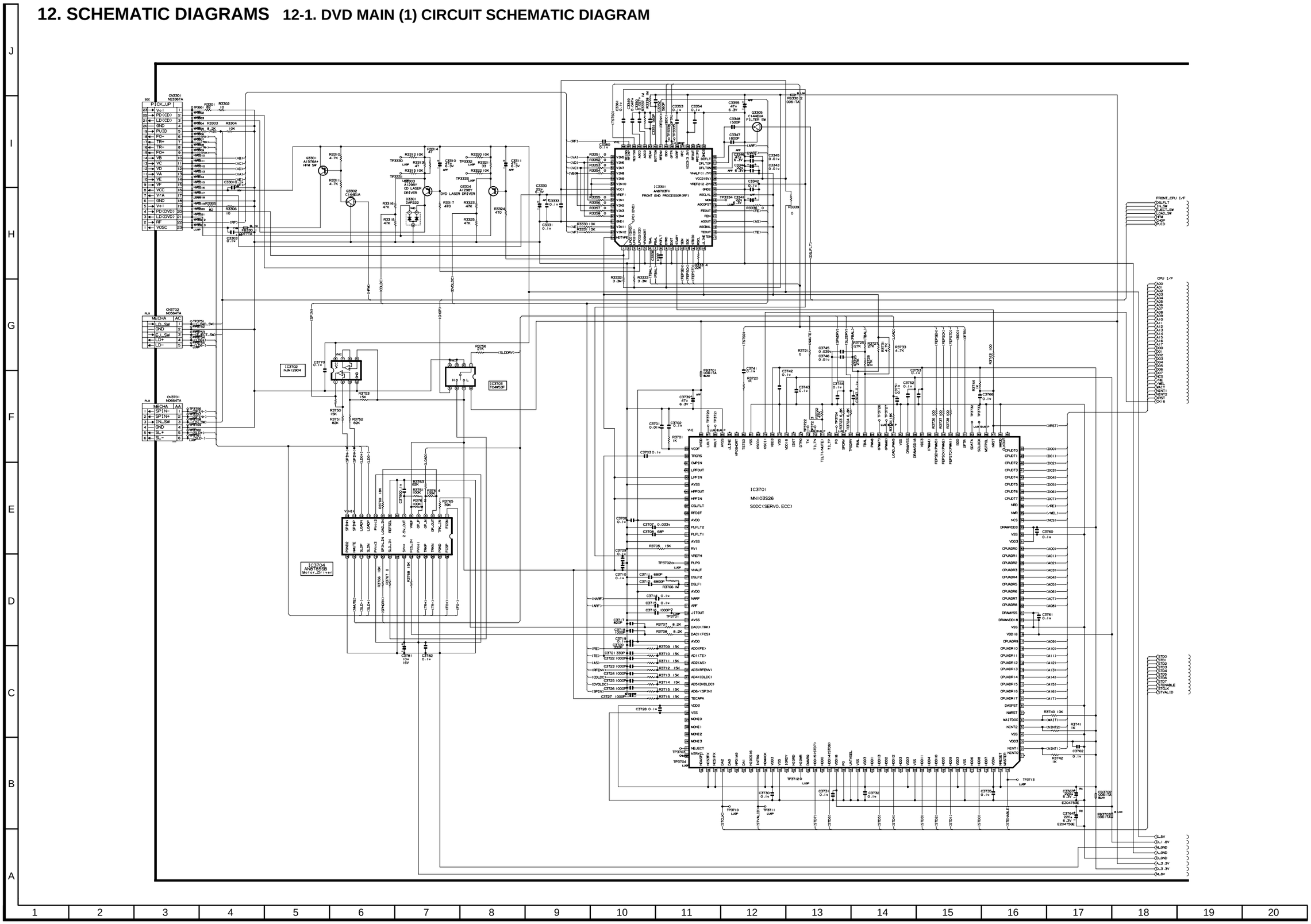
DV-NC70U/C
DV-NC72U

11-4. POWER BLOCK DIAGRAM



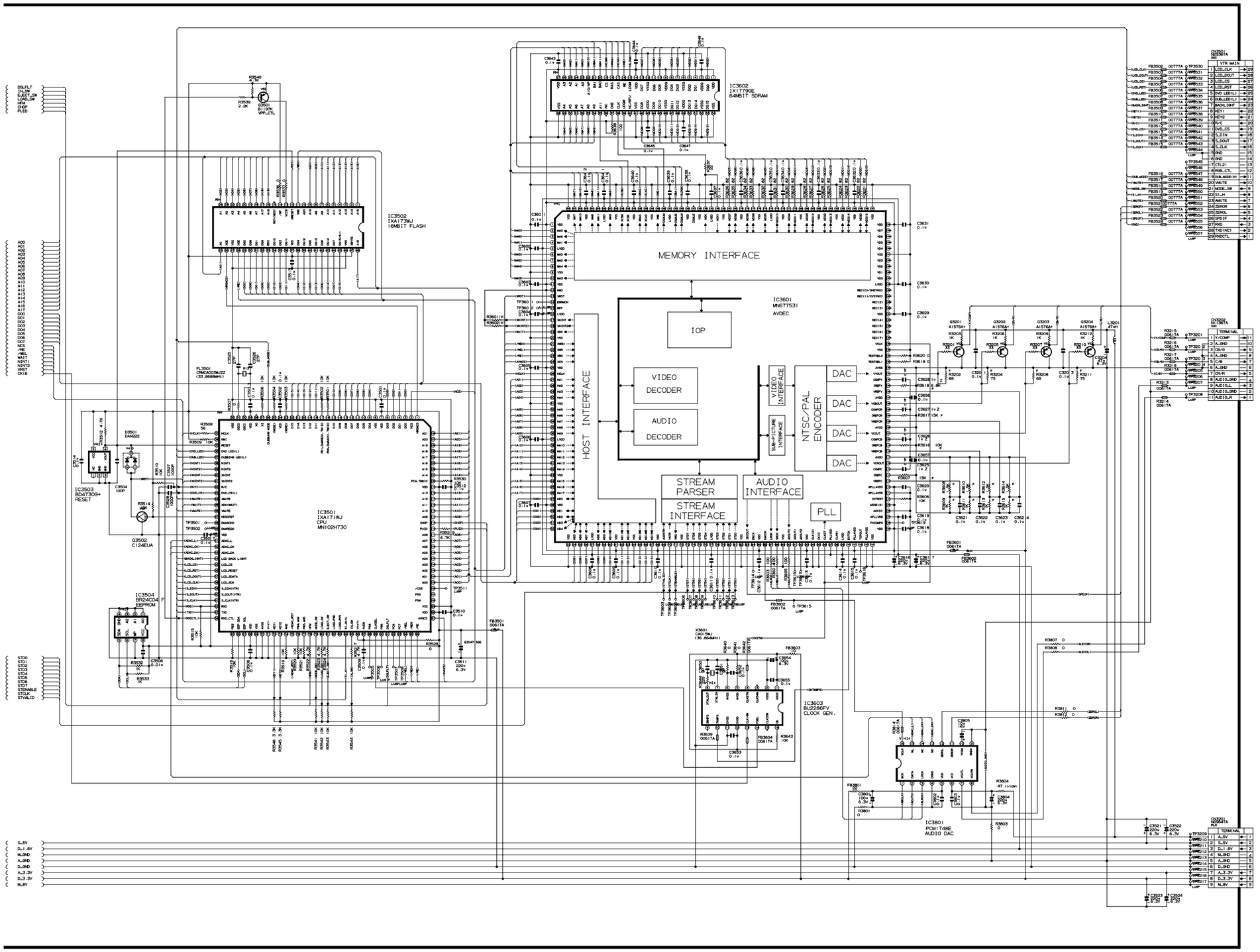
DV-NC70U/C
DV-NC72U

12. SCHEMATIC DIAGRAMS 12-1. DVD MAIN (1) CIRCUIT SCHEMATIC DIAGRAM



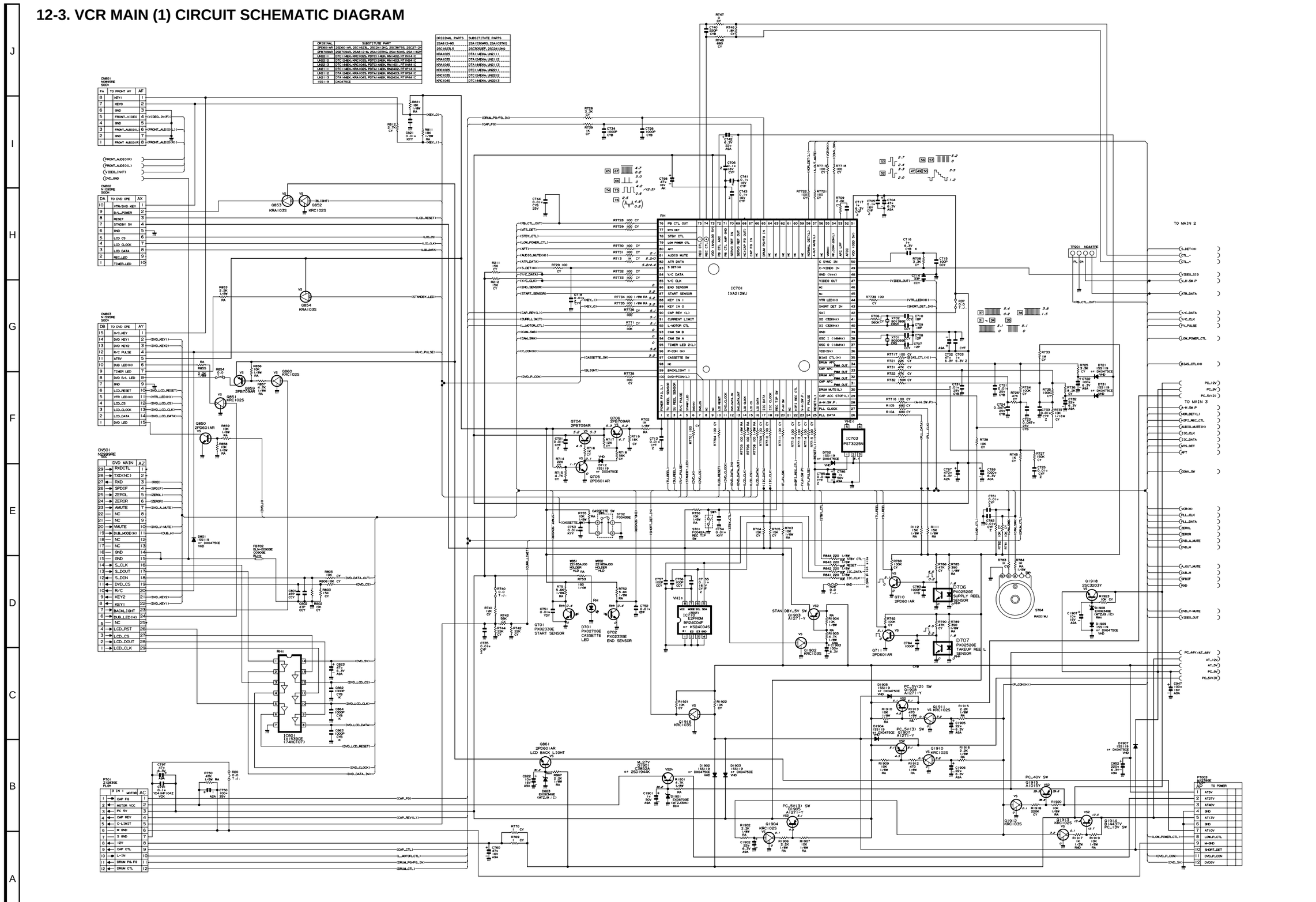
DV-NC70U/C
DV-NC72U

12-2. DVD MAIN (2) CIRCUIT SCHEMATIC DIAGRAM



DV-NC70U/C
DV-NC72U

12-3. VCR MAIN (1) CIRCUIT SCHEMATIC DIAGRAM



64~65

DV-NC70U/C
DV-NC72U

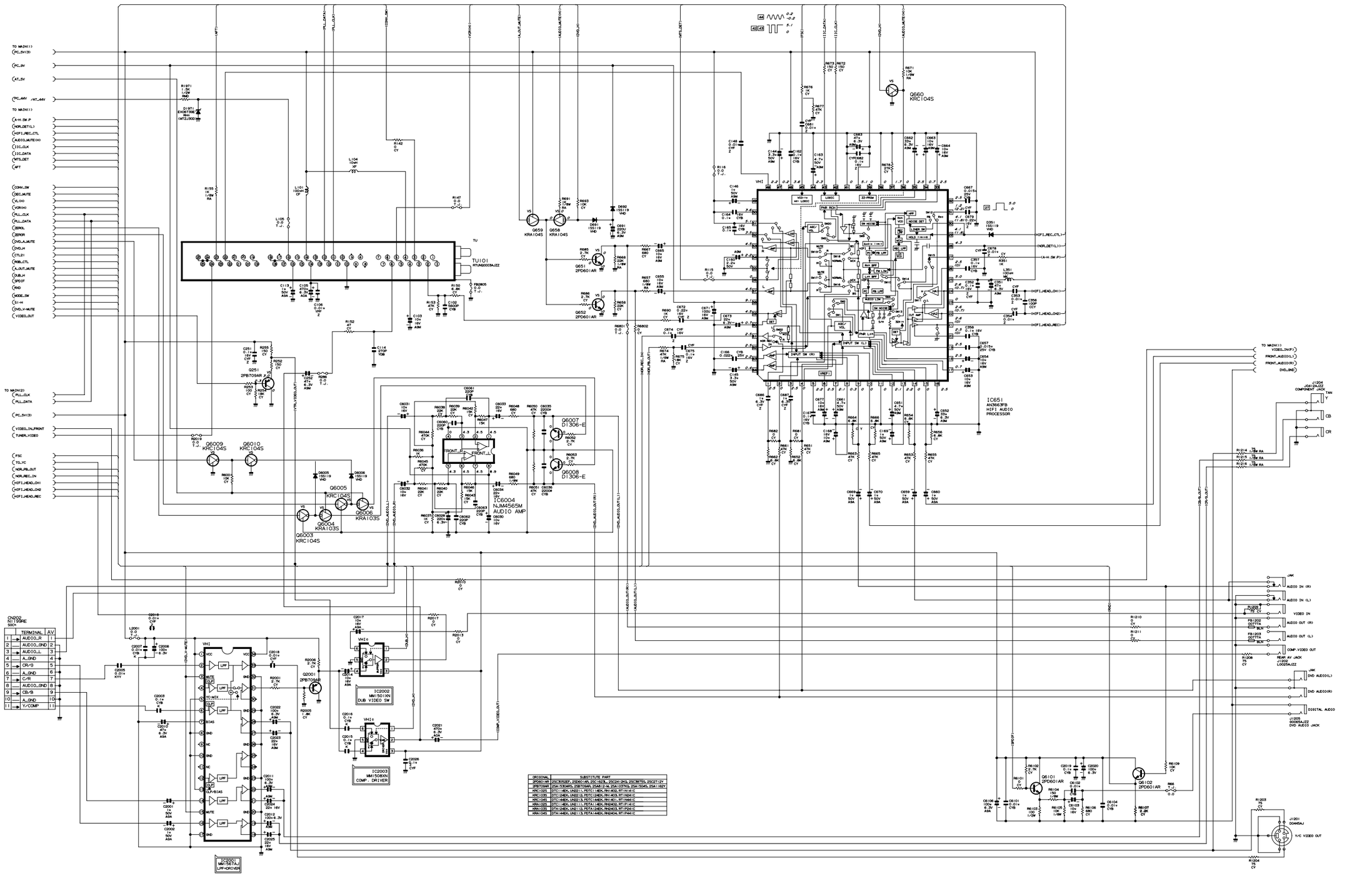
12-4. VCR MAIN (2) CIRCUIT SCHEMATIC DIAGRAM

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

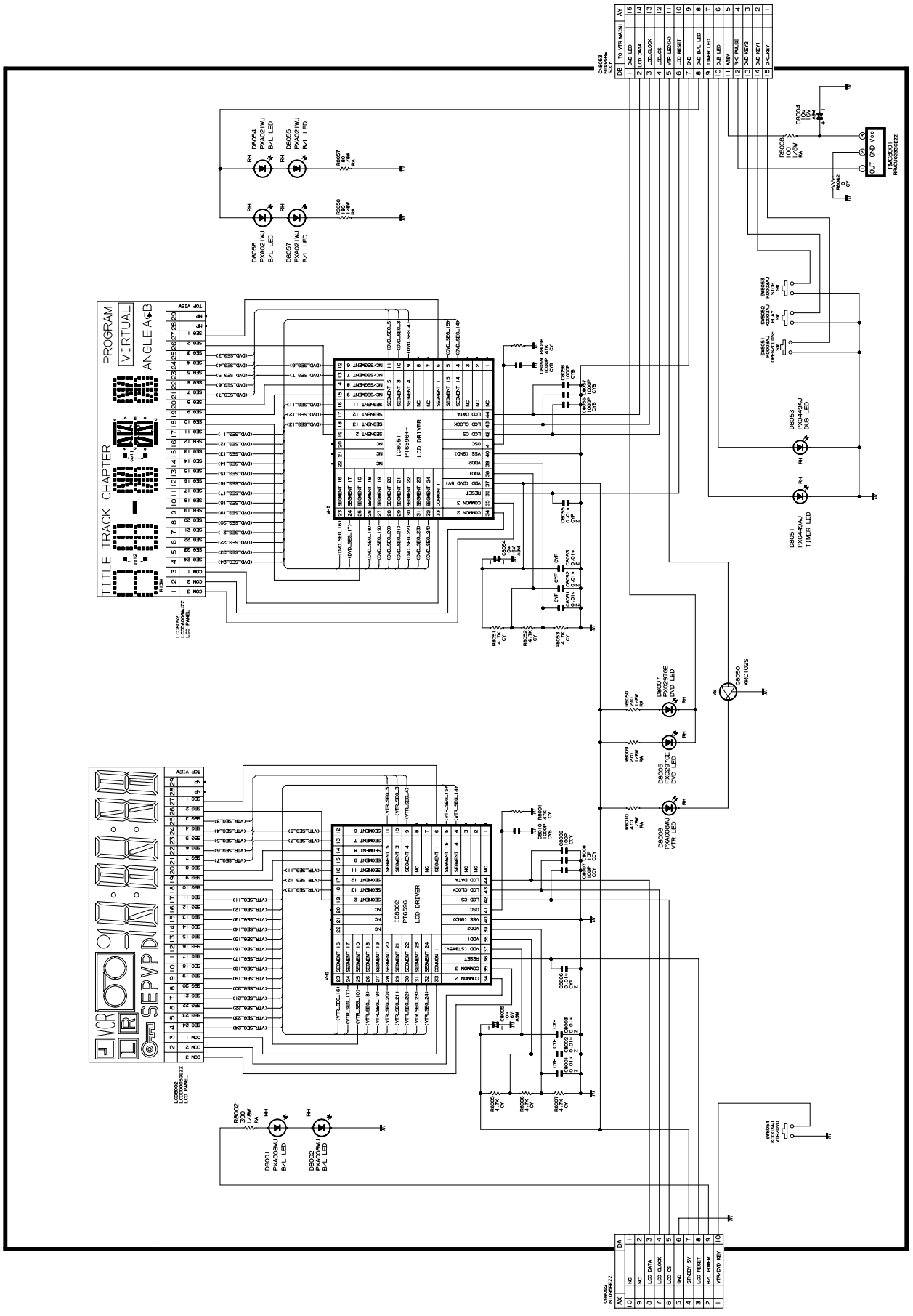
ORIGINAL	SUBSTITUTE PART
2PD601AR	2SC3052EF, 2SD601AR, 2SC1623L, 2SC2412KQ, 2SC3875S, 2SC2712Y
2PB709AR	2SA1530ARS, 2SB709AR, 2SA812-HL 2SA1037KQ, 2SA1504S, 2SA1162Y
KRC102S	DTC114EK, UN2211, PDTC114EK, RN1405, RT1N141C
KRC103S	DTC124EK, UN2212, PDTC124EK, RN1403, RT1N241C
KRC104S	DTC144EK, UN2213, PDTC144EK, RN1401, RT1N441C
KRA102S	DTA114EK, UN2111, PDTA114EK, RN2402, RT1P141C
KRA103S	DTA124EK, UN2112, PDTA124EK, RN2403, RT1P241C
KRA104S	DTA144EK, UN2113, PDTA144EK, RN2404, RT1P441C

DV-NC70U/C
DV-NC72U

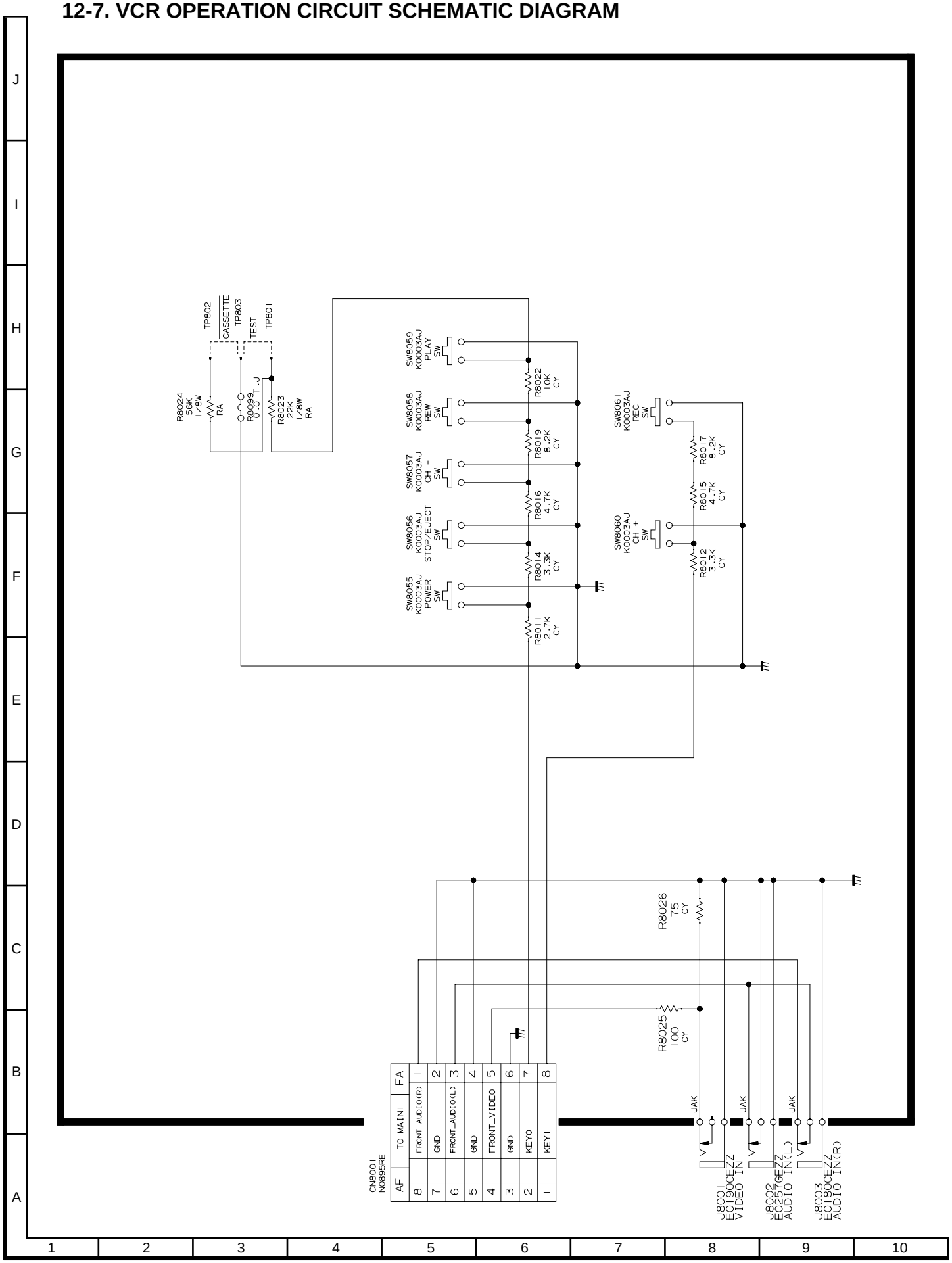
12-5. VCR MAIN (3) CIRCUIT SCHEMATIC DIAGRAM



12-6. DVD OPERATION CIRCUIT SCHEMATIC DIAGRAM



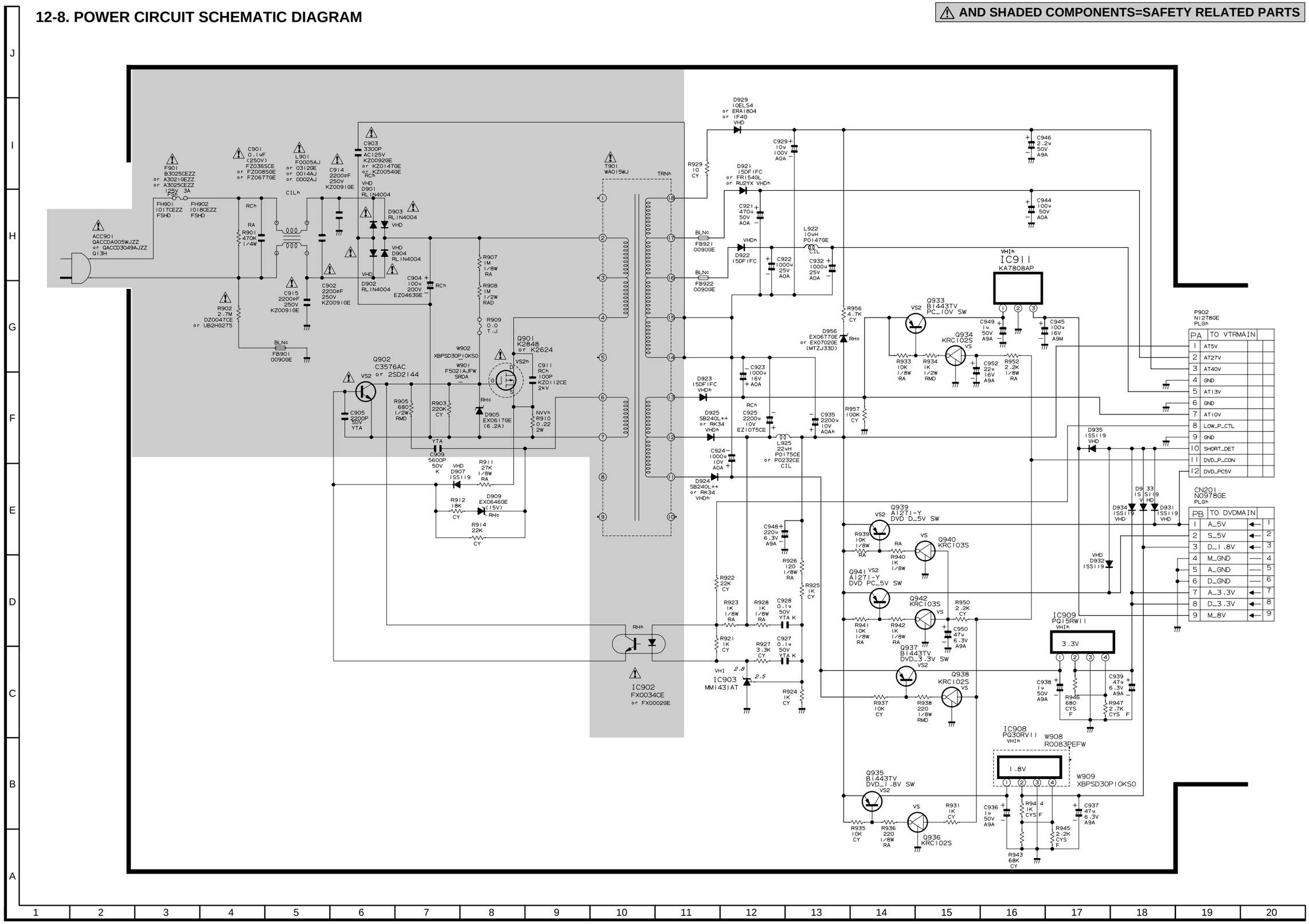
12-7. VCR OPERATION CIRCUIT SCHEMATIC DIAGRAM



DV-NC70U/C
DV-NC72U

12-8. POWER CIRCUIT SCHEMATIC DIAGRAM

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

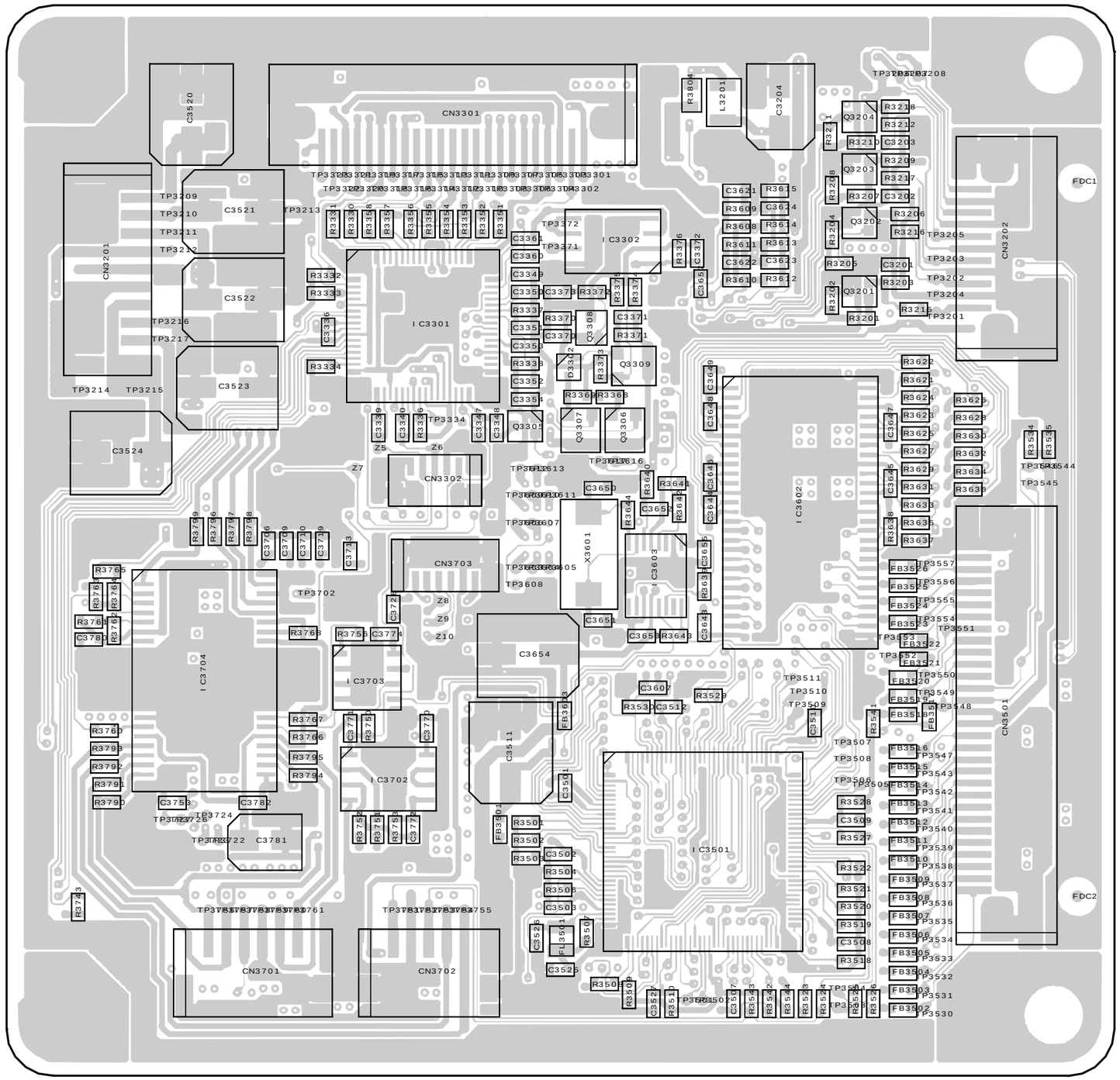


DV-NC70U/C
DV-NC72U

13. PRINTED WIRING BOARD ASSEMBLIES

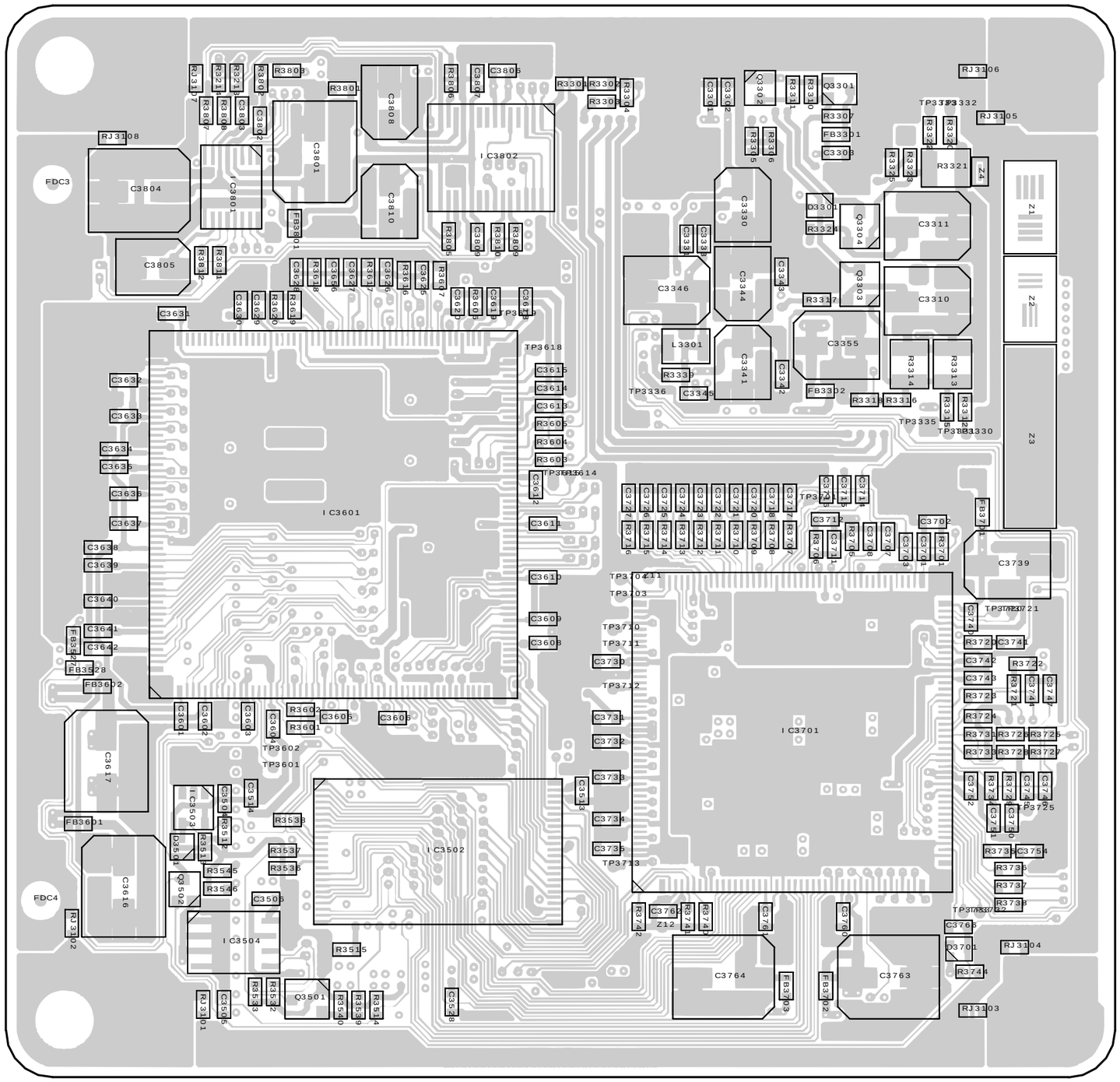
DVD MAIN PWB

SIDE A



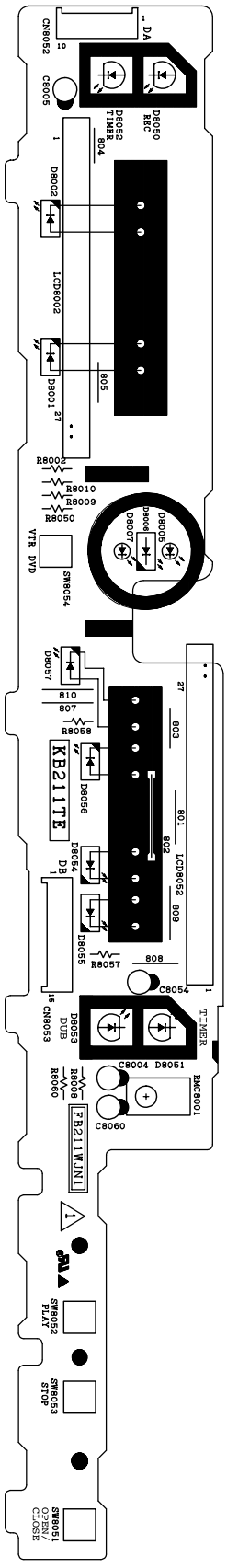
DV-NC70U/C
DV-NC72U

DVD MAIN PWB
SIDE B

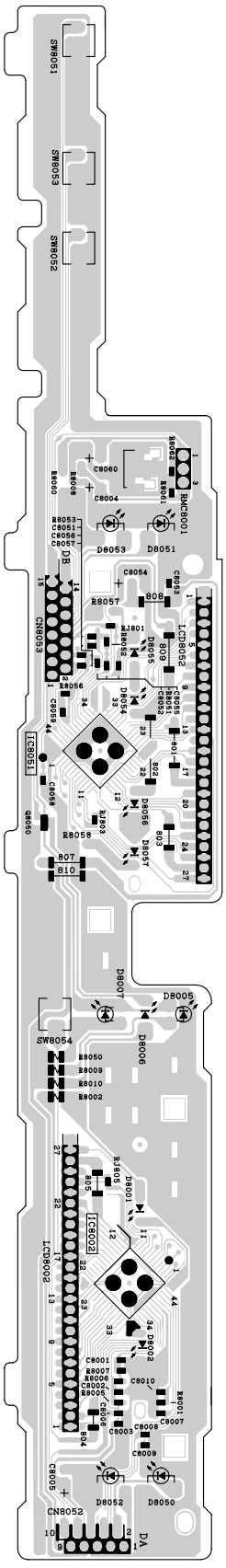


DVD OPERATION PWB

SIDE A Symbol

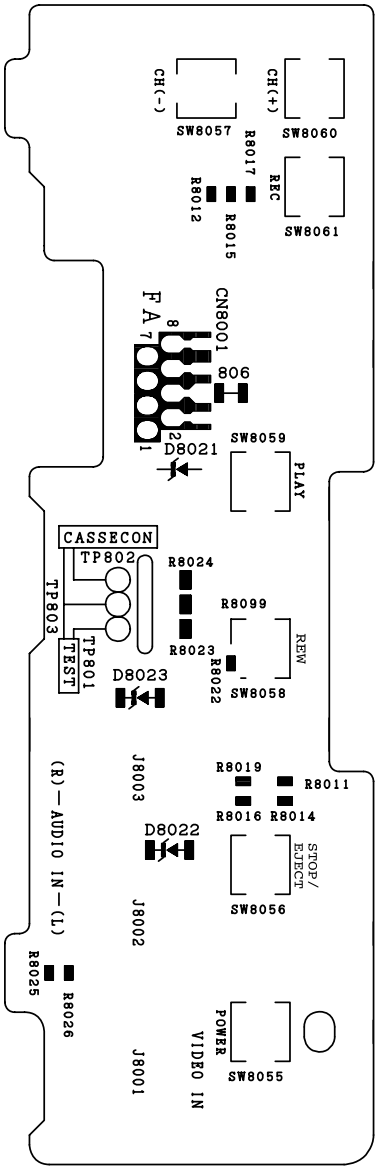


SIDE B

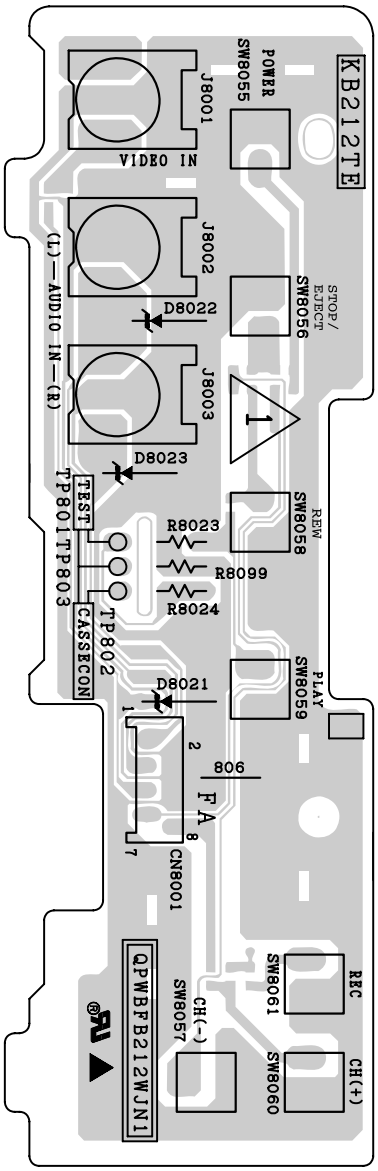


VCR OPERATION PWB

SIDE A Symbol



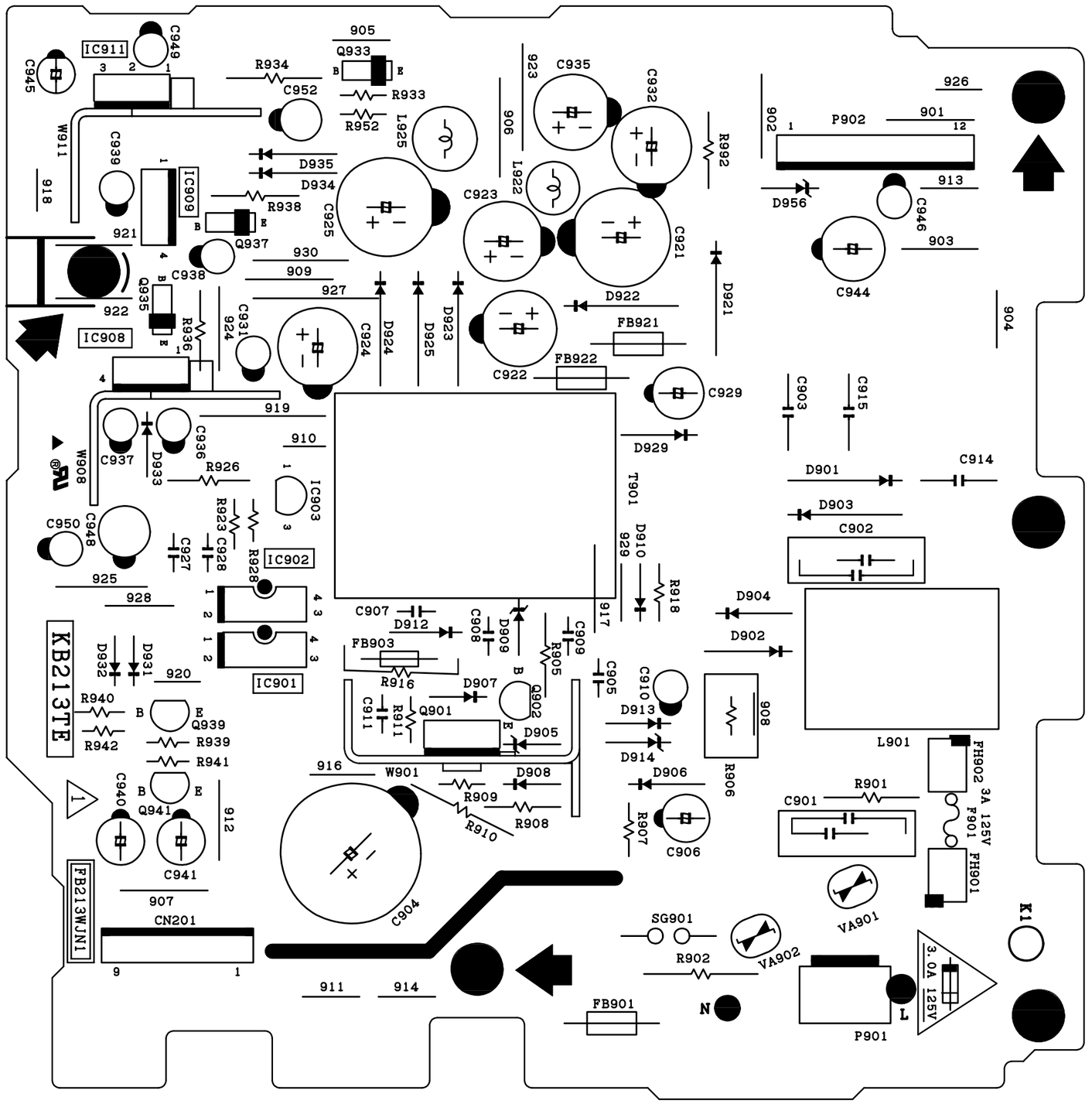
SIDE B



DV-NC70U/C
DV-NC72U

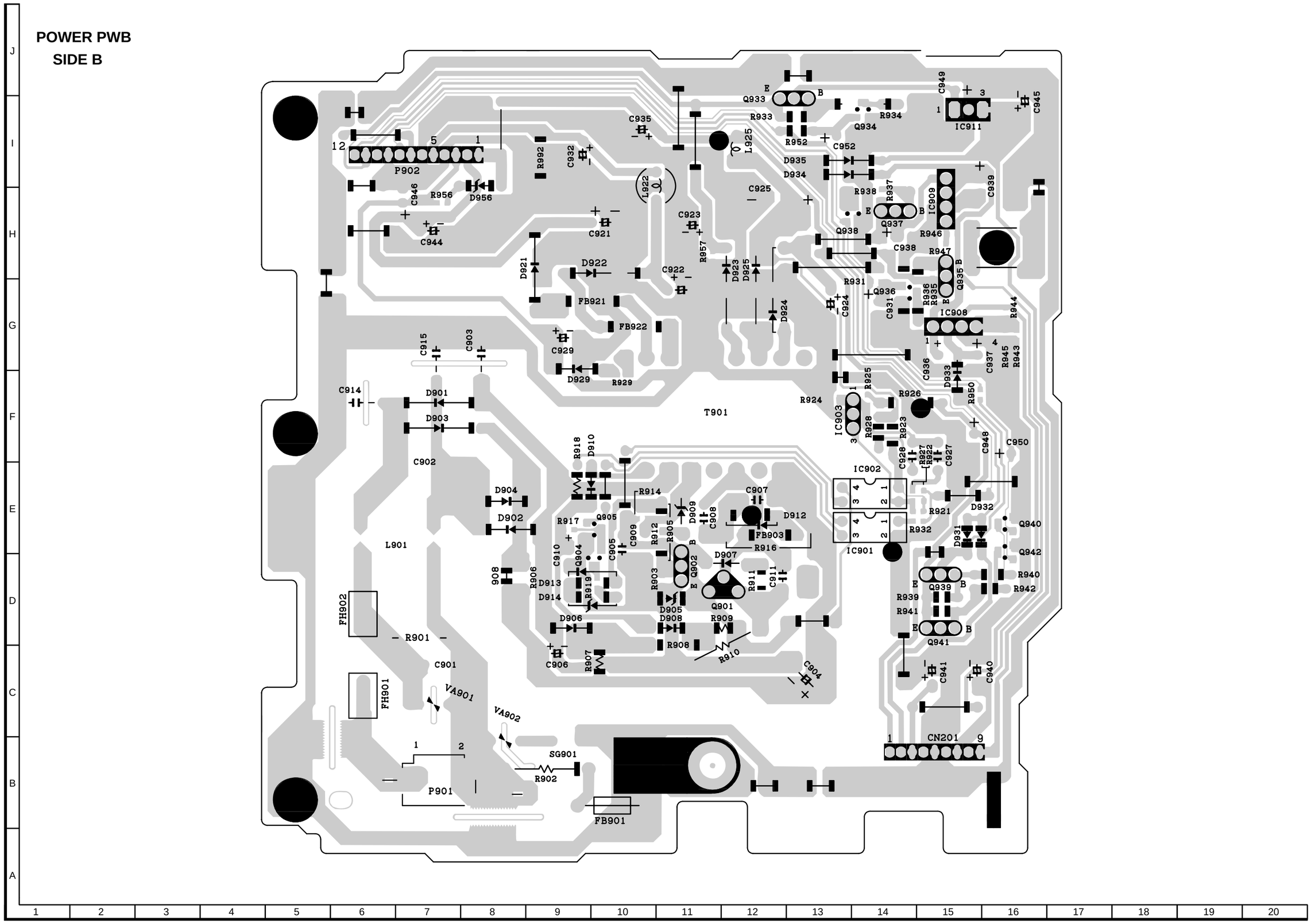
POWER PWB

SIDE A Symbol



DV-NC70U/C
DV-NC72U

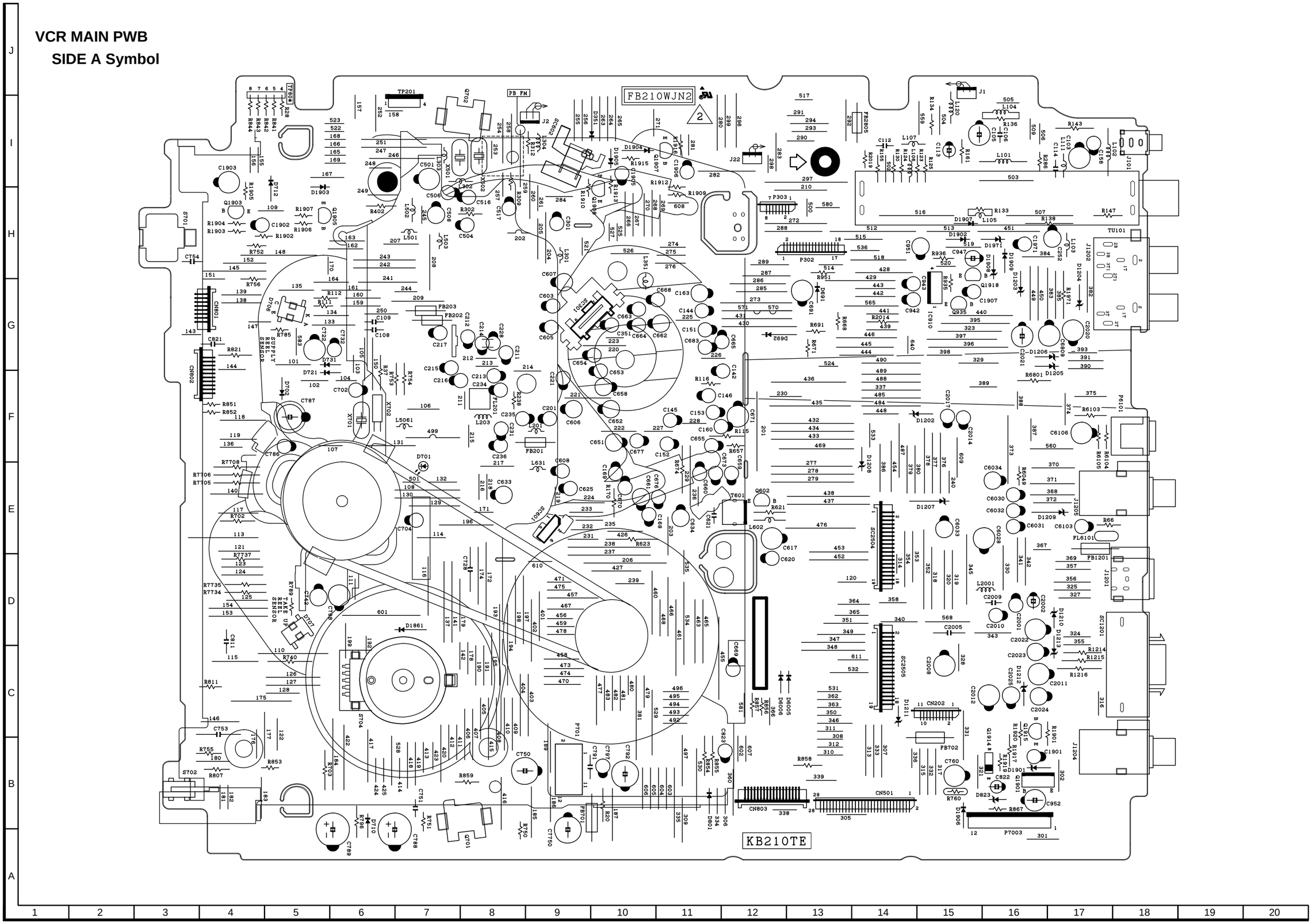
POWER PWB
SIDE B



DV-NC70U/C
DV-NC72U

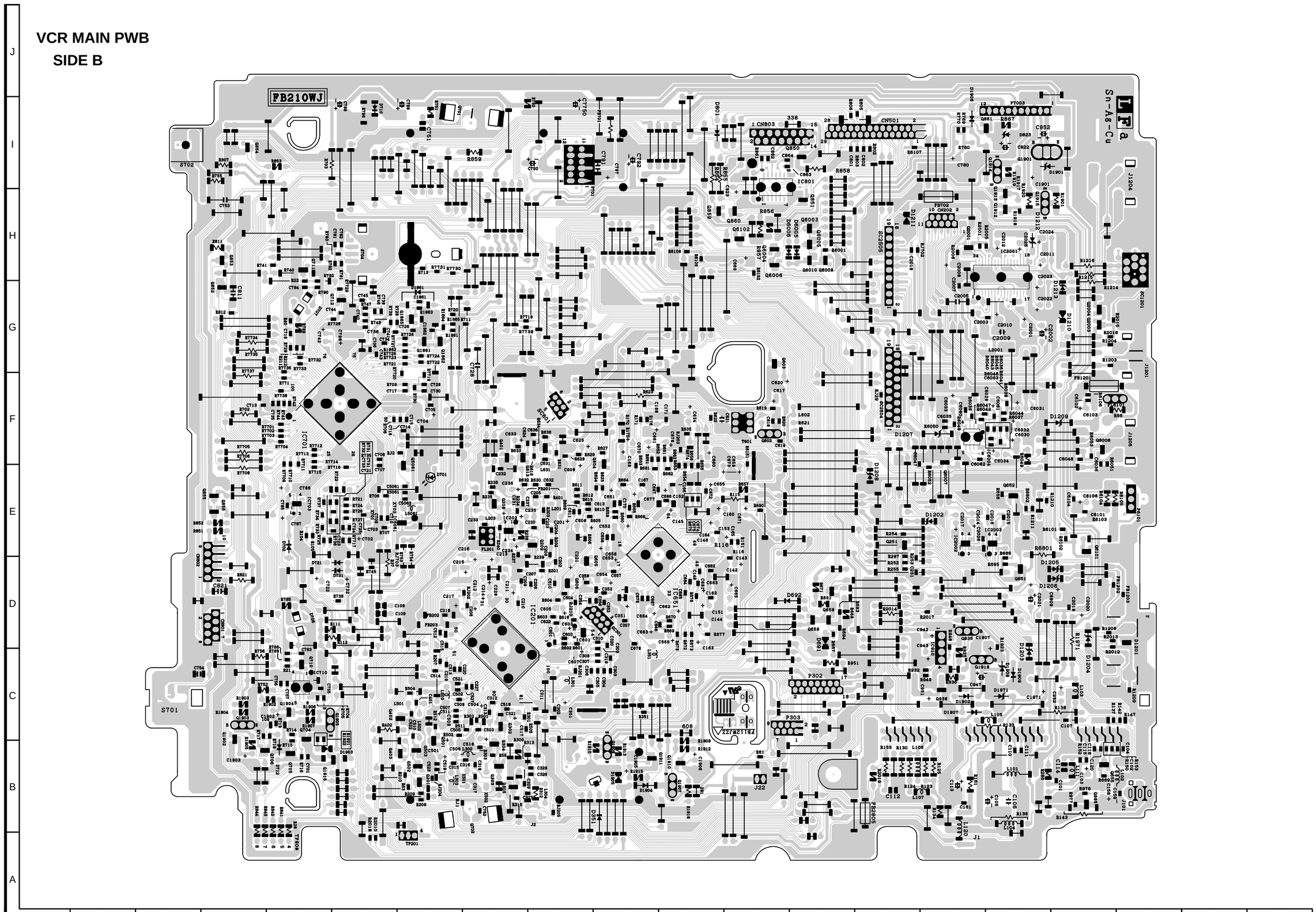
VCR MAIN PWB

SIDE A Symbol



DV-NC70U/C
DV-NC72U

VCR MAIN PWB
SIDE B



- M E M O -

14. REPLACEMENT PARTS LIST/ EXPLODED VIEWS

ELECTRICAL PARTS LIST

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

Les pièces marquéss "⚠" sont importantes pour maintenir la sècurité de l'appareil. Ne remplacer ces pieces que par des pièces dont le numéro est spécifié pour maintenir la sécurité et protéger le bon fonctinnement de l'appareil.

"HOW TO ORDER REPLACEMENT PARTS"

in USA: Contact your nearest SHARP Parts Distributor. For location of SHARP Parts Distributor,
Call Toll-free 1-IBE800-SHARP

in CANADA: Contact SHARP Electronics of Canada Limited
Phone (416) 890-2100.

★MARK : SPARE PARTS-DELIVERY SECTION:ALL JAPAN

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**
5. PRICE CODE

⚠ MARK: SAFETY RELATED PARTS
⚠ PIECES: RELATIVES A LA SECURITE

PWB ASSEMBLY IS NOT REPLACEMENT ITEM
L'ASSEMBLANGE P.C.I. EST UN ARTICLE NON REMPLACABLE

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES
(NOT REPLACEMENT ITEM)

	DUNTKB209TE6E	DVD Main PWB Unit	—
	DUNTKB210TEV3	VCR Main PWB Unit	—
	DUNTKB211TEV2	DVD Operation PWB Unit	—
	DUNTKB212TEV2	VCR Operation PWB Unit	—
	DUNTKB213TEV2	Power PWB Unit	—
	DUNTKB233TEV1	Sled Motor PWB Unit	—

DUNTKB209TE6E
DVD MAIN PWB UNIT

INTEGRATED CIRCUITS

IC3301	VHiAN8703FH-1Q	AN8703FH, Front End Processor	AU
IC3501	RH-iXA171WJZZQ	IXA171WJ, CPU	AX
IC3502	RH-iXA173WJZZQ	IXA173WJ, 16Mbit Flash	AZ
IC3503	VHiBD4730G+-1Y	BD4730G+, Reset	AE
IC3504	VHiBR24C04F-1	BR24C04F, E^2PROM	AG
IC3601	VHiMN677531-1Q	MN677531, AV DEC	BL
IC3602	RH-iX1779GEZZQ	IX1779GE, 64Mbit SDRAM	BB
IC3603	VHiBU2286FV-1Y	BU2286FV, Clock Gen.	AP
IC3701	VHiMN103S26-1Q	MN103S26, SODC	BE
IC3702	VHiNJM12904-1Y	NJM12904	AE
IC3703	VHiTC4W53F/-1	TC4W53F	AE
IC3704	VHiAN8785SB-1Y	AN8785SB, Motor Driver	AL
IC3801	VHiPCM1748E-1Y	PCM1748E, Audio DAC	AL

TRANSISTORS

Q3201	VS2SA1576A+-1	2SA1576A+	AB
Q3202	VS2SA1576A+-1	2SA1576A+	AB
Q3203	VS2SA1576A+-1	2SA1576A+	AB
Q3204	VS2SA1576A+-1	2SA1576A+	AB
Q3301	VS2SA1576A+-1	2SA1576A+, HFM SW	AB
Q3302	VSDTC144EUA-1	DTC144EUA	AB
Q3303	VS2SA1298Y/-1	2SA1298Y, CD Laser Driver	AB
Q3304	VS2SA1298Y/-1	2SA1298Y, DVD Laser Driver	AB
Q3305	VSDTC144EUA-1	DTC144EUA, Filter SW	AB
Q3501	VS2SB1197K/-1	2SB1197K, VPP_CTL	AC
Q3502	VSDTC124EUA-1Y	DTC124EUA	AB

DIODES

D3301	VHDDAP222//-1	DAP222	AA
D3501	VHDDAN222//-1	DAN222	AA

PACKAGED CIRCUIT

X3601	RCRSCA015WJZZY	Crystal, 36.864MHz	AH

COIL

L3201	VP-NM470K2R0N	Peaking, 47µH	AB

CAPACITORS

C3201	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3203	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3204	VCEAPF0JW476M	47	6.3V	Electrolytic	AB
C3301	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3303	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3310	VCEAPF0JW476M	47	6.3V	Electrolytic	AB
C3311	VCEAPF0JW476M	47	6.3V	Electrolytic	AB
C3330	VCEAPF0JW226M	22	6.3V	Electrolytic	AB
C3331	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3333	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3336	VCCCCY1HH101J	100p	50V	Ceramic	AA
C3341	VCEAPF0JW226M	22	6.3V	Electrolytic	AB
C3342	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3343	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C3344	VCEAPF0JW226M	22	6.3V	Electrolytic	AB
C3345	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C3346	VCEAPF0JW476M	47	6.3V	Electrolytic	AB
C3347	VCKYCY1HB182K	1800p	50V	Ceramic	AA
C3348	VCKYCY1HB152K	1500p	50V	Ceramic	AA
C3349	VCKYCY1CB473K	0.047	16V	Ceramic	AA
C3350	VCKYCY1CB273K	0.027	16V	Ceramic	AA
C3351	VCKYCY1HB561K	560p	50V	Ceramic	AA
C3352	VCKYCY1HB561K	560p	50V	Ceramic	AA
C3353	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3354	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3355	VCEAPF0JW476M	47	6.3V	Electrolytic	AB
C3360	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3361	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3501	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3502	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3503	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3504	VCCCCY1HH101J	100p	50V	Ceramic	AA
C3506	VCKYCY1HB103K	0.01	50V	Ceramic	AA
C3507	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3508	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3509	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3510	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3511	RC-EZ0475GEZZ	220	6.3V	Electrolytic	AD
C3512	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3513	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3514	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3521	RC-EZ0475GEZZ	220	6.3V	Electrolytic	AD
C3522	RC-EZ0475GEZZ	220	6.3V	Electrolytic	AD
C3523	RC-EZ0475GEZZ	220	6.3V	Electrolytic	AD
C3524	RC-EZ0475GEZZ	220	6.3V	Electrolytic	AD
C3525	VCCCCY1HH270J	27p	50V	Ceramic	AA
C3526	VCCCCY1HH270J	27p	50V	Ceramic	AA
C3527	VCKYCY1HB102K	1000p	50V	Ceramic	AA
C3528	VCKYCY1HB102K	1000p	50V	Ceramic	AA
C3601	VCKYCY1CB104K	0.1	16V	Ceramic	AB
C3602	VCKYCY1CB104K	0.1	16V	Ceramic	AB

DUNTKB209TE6E
DVD MAIN PWB UNIT(Continued)

Ref. No.	Part No.	★	Description			Code
C3603	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3604	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3605	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3606	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3607	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3608	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3609	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3610	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3611	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3612	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3613	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3614	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3615	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3616	RC-EZ0475GEZZ		220	6.3V	Electrolytic	AD
C3617	RC-EZ0475GEZZ		220	6.3V	Electrolytic	AD
C3618	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3619	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3620	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3621	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3622	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3623	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3624	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3625	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C3626	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C3627	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C3628	VCKYCY0JF105Z		1	6.3V	Ceramic	AB
C3629	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3630	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3631	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3632	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3633	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3634	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3635	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3636	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3637	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3638	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3639	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3640	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3641	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3642	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3643	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3644	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3645	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3647	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3648	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3650	VCCCCY1HH9R0D		9p	50V	Ceramic	AA
C3651	VCCCCY1HH9R0D		9p	50V	Ceramic	AA
C3652	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3653	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3654	VCEAPF0JW107M		100	6.3V	Electrolytic	AC
C3655	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3656	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3657	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3701	VCKYCY1HB103K		0.01	50V	Ceramic	AA
C3702	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3703	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3706	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3707	VCKYCY1CB333K		0.033	16V	Ceramic	AA
C3708	VCCCCY1HH680J		68p	50V	Ceramic	AA
C3709	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3710	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3711	VCKYCY1HB681K		680p	50V	Ceramic	AA
C3712	VCKYCY1HB682K		6800p	50V	Ceramic	AA
C3714	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3715	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3716	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3717	VCKYCY1HB821K		820p	50V	Ceramic	AA
C3718	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3719	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3720	VCKYCY1HB331K		330p	50V	Ceramic	AA
C3721	VCKYCY1HB331K		330p	50V	Ceramic	AA
C3722	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3723	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3724	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3725	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3726	VCKYCY1HB102K		1000p	50V	Ceramic	AA
C3728	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3730	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3731	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3732	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3735	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3739	VCEAPF0JW476M		47	6.3V	Electrolytic	AB
C3741	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3742	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3743	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3744	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3745	VCKYCY1CB393K		0.039	16V	Ceramic	AA
C3746	VCKYCY1HB103K		0.01	50V	Ceramic	AA
C3747	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3751	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3752	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3753	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3760	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3761	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3762	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3763	RC-EZ0475GEZZ		220	6.3V	Electrolytic	AD
C3764	RC-EZ0475GEZZ		220	6.3V	Electrolytic	AD
C3766	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3770	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3780	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3781	VCEAPF1CW106M		10	16V	Electrolytic	AB
C3782	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3801	VCEAPF0JW107M		100	6.3V	Electrolytic	AC
C3802	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3803	VCKYCY1CB104K		0.1	16V	Ceramic	AB
C3804	RC-EZ0475GEZZ		220	6.3V	Electrolytic	AD
C3805	VCEAPF1CW106M		10	16V	Electrolytic	AB
FL3501	RCRMCA003WJZZY		Ceramic Vibrator			AE

RESISTORS

FB3603	VRS-CY1JF100JY	10	1/16W	Metal Oxide	AA
FB3801	VRS-CY1JF220JY	22	1/16W	Metal Oxide	AA
R3201	VRS-CY1JF330J	33	1/16W	Metal Oxide	AA
R3202	VRS-CY1JF680F	68	1/16W	Metal Oxide	AA
R3203	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R3204	VRS-CY1JF750F	75	1/16W	Metal Oxide	AA
R3205	VRS-CY1JF330J	33	1/16W	Metal Oxide	AA
R3206	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R3207	VRS-CY1JF330J	33	1/16W	Metal Oxide	AA
R3208	VRS-CY1JF680F	68	1/16W	Metal Oxide	AA
R3209	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R3210	VRS-CY1JF330J	33	1/16W	Metal Oxide	AA
R3211	VRS-CY1JF750F	75	1/16W	Metal Oxide	AA
R3212	VRS-CY1JF102J	1k	1/16W	Metal Oxide	AA
R3301	VRS-CY1JF820J	82	1/16W	Metal Oxide	AA
R3302	VRS-CY1JF100J	10	1/16W	Metal Oxide	AA
R3303	VRS-CY1JF822J	8.2k	1/16W	Metal Oxide	AA
R3304	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3305	VRS-CY1JF820J	82	1/16W	Metal Oxide	AA
R3306	VRS-CY1JF100J	10	1/16W	Metal Oxide	AA
R3310	VRS-CY1JF472J	4.7k	1/16W	Metal Oxide	AA
R3311	VRS-CY1JF472J	4.7k	1/16W	Metal Oxide	AA
R3312	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3313	VRS-TW2ED470J	47	1/4W	Metal Oxide	AA
R3314	VRS-TW2ED470J	47	1/4W	Metal Oxide	AA
R3315	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3316	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R3317	VRS-CY1JF471J	470	1/16W	Metal Oxide	AA
R3318	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R3320	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3321	VRS-TW2ED330J	33	1/4W	Metal Oxide	AA
R3322	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3323	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R3324	VRS-CY1JF471J	470	1/16W	Metal Oxide	AA
R3325	VRS-CY1JF473J	47k	1/16W	Metal Oxide	AA
R3330	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA
R3331	VRS-CY1JF103J	10k	1/16W	Metal Oxide	AA

DUNTKB209TE6E
DVD MAIN PWB UNIT(Continued)

Ref. No.	Part No.	★	Description	Code
R3332	VRS-CY1JF335J		3.3M 1/16W Metal Oxide	AA
R3333	VRS-CY1JF335J		3.3M 1/16W Metal Oxide	AA
R3334	VRS-CY1JF223J		22k 1/16W Metal Oxide	AA
R3336	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3337	VRS-CY1JF105J		1M 1/16W Metal Oxide	AA
R3338	VRS-CY1JF105J		1M 1/16W Metal Oxide	AA
R3339	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3351	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3352	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3353	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3354	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3355	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3356	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3357	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3358	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3501	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3502	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3503	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3504	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3506	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3507	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3508	VRS-CY1JF560J		56 1/16W Metal Oxide	AA
R3509	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3510	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3512	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3514	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3515	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3518	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3519	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3520	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3521	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3522	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3523	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3524	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3527	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3528	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3529	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3530	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3532	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3533	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3536	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3537	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3539	VRS-CY1JF222J		2.2k 1/16W Metal Oxide	AA
R3540	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3541	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3542	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3543	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3544	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3545	VRS-CY1JF332J		3.3k 1/16W Metal Oxide	AA
R3546	VRS-CY1JF332J		3.3k 1/16W Metal Oxide	AA
R3601	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3602	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3603	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3604	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3605	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3606	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3607	VRS-CY1JF153F		15k 1/16W Metal Oxide	AA
R3608	VRS-CY1JF152F		1.5k 1/16W Metal Oxide	AA
R3609	VRS-CY1JF102F		1k 1/16W Metal Oxide	AA
R3610	VRS-CY1JF152F		1.5k 1/16W Metal Oxide	AA
R3611	VRS-CY1JF102F		1k 1/16W Metal Oxide	AA
R3612	VRS-CY1JF152F		1.5k 1/16W Metal Oxide	AA
R3613	VRS-CY1JF102F		1k 1/16W Metal Oxide	AA
R3614	VRS-CY1JF152F		1.5k 1/16W Metal Oxide	AA
R3615	VRS-CY1JF102F		1k 1/16W Metal Oxide	AA
R3616	VRS-CY1JF103F		10k 1/16W Metal Oxide	AA
R3617	VRS-CY1JF153F		15k 1/16W Metal Oxide	AA
R3618	VRS-CY1JF682F		6.8k 1/16W Metal Oxide	AA
R3619	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3620	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3621	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3622	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3623	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3624	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3625	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3626	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3627	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3628	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3629	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3630	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3631	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3632	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3633	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3634	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3635	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3636	VRS-CY1JF820J		82 1/16W Metal Oxide	AA
R3637	VRS-CY1JF220J		22 1/16W Metal Oxide	AA
R3638	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3640	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3641	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3643	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3644	VRS-CY1JF221J		220 1/16W Metal Oxide	AA
R3701	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3705	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3706	VRS-CY1JF105J		1M 1/16W Metal Oxide	AA
R3707	VRS-CY1JF822J		8.2k 1/16W Metal Oxide	AA
R3708	VRS-CY1JF822J		8.2k 1/16W Metal Oxide	AA
R3709	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3710	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3711	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3712	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3713	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3714	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3715	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3716	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3720	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3721	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3722	VRS-CY1JF473J		47k 1/16W Metal Oxide	AA
R3723	VRS-CY1JF682J		6.8k 1/16W Metal Oxide	AA
R3724	VRS-CY1JF682J		6.8k 1/16W Metal Oxide	AA
R3725	VRS-CY1JF273J		27k 1/16W Metal Oxide	AA
R3726	VRS-CY1JF273J		27k 1/16W Metal Oxide	AA
R3727	VRS-CY1JF273J		27k 1/16W Metal Oxide	AA
R3728	VRS-CY1JF273J		27k 1/16W Metal Oxide	AA
R3731	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3733	VRS-CY1JF472J		4.7k 1/16W Metal Oxide	AA
R3734	VRS-CY1JF183J		18k 1/16W Metal Oxide	AA
R3736	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3737	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3738	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3740	VRS-CY1JF103J		10k 1/16W Metal Oxide	AA
R3741	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3742	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3743	VRS-CY1JF101J		100 1/16W Metal Oxide	AA
R3744	VRS-CY1JF102J		1k 1/16W Metal Oxide	AA
R3750	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3751	VRS-CY1JF823J		82k 1/16W Metal Oxide	AA
R3752	VRS-CY1JF823J		82k 1/16W Metal Oxide	AA
R3753	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3756	VRS-CY1JF273J		27k 1/16W Metal Oxide	AA
R3760	VRS-CY1JF183J		18k 1/16W Metal Oxide	AA
R3761	VRS-CY1JF104J		100k 1/16W Metal Oxide	AA
R3762	VRS-CY1JF104J		100k 1/16W Metal Oxide	AA
R3763	VRS-CY1JF823J		82k 1/16W Metal Oxide	AA
R3764	VRS-CY1JF104J		100k 1/16W Metal Oxide	AA
R3765	VRS-CY1JF393J		39k 1/16W Metal Oxide	AA
R3766	VRS-CY1JF183J		18k 1/16W Metal Oxide	AA
R3767	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3768	VRS-CY1JF153J		15k 1/16W Metal Oxide	AA
R3801	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3803	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3804	VRS-TV1JD470J		47 1/10W Metal Oxide	AA
R3807	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3808	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3811	VRS-CY1JF000J		0 1/16W Metal Oxide	AA
R3812	VRS-CY1JF000J		0 1/16W Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code

DUNTKB209TE6E
DVD MAIN PWB UNIT(Continued)

BALUNES

FB3301	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3302	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3501	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3502	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3503	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3504	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3505	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3506	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3507	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3508	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3509	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3510	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3511	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3512	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3513	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3514	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3515	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3516	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3517	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3518	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3519	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3520	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3521	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3522	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3523	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3524	RBLN-0077TAZZ	Balun, BLN-0077TA	AB
FB3601	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3602	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3604	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
FB3701	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3702	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3703	RBLN-0061TAZZ	Balun, BLN-0061TA	AD
FB3802	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3213	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3214	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3215	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3216	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3217	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3218	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3639	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3642	RBLN-0061TAZZY	Balun, BLN-0061TA	AD
R3814	RBLN-0061TAZZY	Balun, BLN-0061TA	AD

MISCELLANEOUS PARTS

CN3201	QPLGN0964TAZZ	Plug, 9Pin	AF
CN3202	QSOCN1136TAZZ	Socket, 11Pin	AD
CN3301	QSOCN2336TAZZY	Socket, 23Pin	AF
CN3501	QSOCN2936TAZZ	Socket, 29Pin	AF
CN3701	QPLGN0664TAZZ	Plug, 6Pin	AD
CN3702	QPLGN0564TAZZ	Plug, 5Pin	AC

DUNTKB210TEV3
VCR MAIN PWB UNIT

TUNER

TU101	RTUNQ0003AJZZ	Tuner	BC

INTEGRATED CIRCUITS

IC201	VHiHA8317NF-1	HA8317NF, Y/C Audio Processor	AZ
IC651	VHiAN3663FB-1Q	AN3663FB, Hifi Audio Processor	AU
IC701	RH-iXA212WJZZQ	IXA212WJ	AX
IC703	VHiPST3225N1EY	PST3225N	AD
IC710	VHiBR24C04F-1Y	BR24C04F, E^2PROM	AG
IC801	RH-iX1539CEZZY	IX1539CE	AE
IC2001	VHiMM1567AJ-1Y	MM1567AJ, LPF+ Driver	AM
IC2002	VHiMM1501XN-1Y	MM1501XN, Dub Video SW	AE
IC2003	VHiMM1508XN-1Y	MM1508XN, Comp. Driver	AE
IC6004	VHiNJM4565M-1Y	NJM4565M, Audio Amp	AE

TRANSISTORS

Q251	VS2PB709AR/-1Y	2PB709AR	AB
Q602	VS2SC3203Y/-1+	2SC3203Y	AC
Q603	VS2PD601AR/-1Y	2PD601AR	AB
Q604	VSKRA103S//-1Y	KRA103S	AA
Q605	VS2PD601AR/-1Y	2PD601AR	AB
Q606	VS2PD601AR/-1Y	2PD601AR	AB
Q651	VS2PD601AR/-1Y	2PD601AR	AB
Q652	VS2PD601AR/-1Y	2PD601AR	AB
Q658	VSKRA104S//-1Y	KRA104S	AA
Q659	VSKRA104S//-1Y	KRA104S	AA
Q660	VSKRC104S//-1Y	KRC104S	AA
Q704	VS2PB709AR/-1Y	2PB709AR	AB
Q705	VS2PD601AR/-1Y	2PD601AR	AB
Q706	VS2PB709AR/-1Y	2PB709AR	AB
Q710	VS2PD601AR/-1Y	2PD601AR	AB
Q711	VS2PD601AR/-1Y	2PD601AR	AB
Q850	VS2PD601AR/-1Y	2PD601AR	AB
Q851	VSKRC102S//-1Y	KRC102S	AA
Q852	VSKRC102S//-1Y	KRC102S	AA
Q853	VSKRA103S//-1Y	KRA103S	AA
Q854	VSKRA103S//-1Y	KRA103S	AA
Q859	VS2PB709AR/-1Y	2PB709AR	AB
Q860	VSKRC102S//-1Y	KRC102S	AA
Q861	VS2PD601AR/-1Y	2PD601AR, LCD Back Light	AB
Q1901	VS2SC3852A/-1	2SC3852A, M_27V	AH
Q1902	VSKRC103S//-1Y	KRC103S	AA
Q1903	VS2SA1271-Y-1+	2SA1271-Y, Standby_5V SW	AC
Q1904	VSKRC102S//-1Y	KRC102S	AA
Q1905	VS2SA1271-Y-1+	2SA1271-Y, PC_5V(3) SW	AC
Q1907	VS2SA1271-Y-1+	2SA1271-Y, PC_5V(3) SW	AC
Q1908	VS2SA1271-Y-1+	2SA1271-Y, PC_5V(2) SW	AC
Q1910	VSKRC102S//-1Y	KRC102S	AA
Q1911	VSKRC102S//-1Y	KRC102S	AA
Q1912	VSKRC103S//-1Y	KRC103S	AA
Q1913	VSKRC102S//-1Y	KRC102S	AA
Q1914	VS2SB1443TV1E+	2SB1443TV, PC_13V SW	AE
Q1915	VS2SA1015Y/1E+	2SA1015Y, PC_40V SW	AB
Q1916	VSKRC103S//-1Y	KRC103S	AA
Q1918	VS2SC3203Y/-1+	2SC3203Y	AC
Q2001	VS2PB709AR/-1Y	2PB709AR	AB
Q6003	VSKRC104S//-1Y	KRC104S	AA
Q6004	VSKRA103S//-1Y	KRA103S	AA
Q6005	VSKRC104S//-1Y	KRC104S	AA
Q6006	VSKRA103S//-1Y	KRA103S	AA
Q6007	VS2SD1306-E-1Y	2SD1306-E	AC
Q6008	VS2SD1306-E-1Y	2SD1306-E	AC
Q6009	VSKRC104S//-1Y	KRC104S	AA
Q6010	VSKRC104S//-1Y	KRC104S	AA
Q6101	VS2PD601AR/-1Y	2PD601AR	AB
Q6102	VS2PD601AR/-1Y	2PD601AR	AB

DIODES AND LED'S

D351	VHD1SS119//-1Y	1SS119	AA
D691	VHD1SS119//-1Y	1SS119	AA
D692	VHD1SS119//-1Y	1SS119	AA
D701	RH-PX0270GEZZ+	PX0270GE, Cassette LED	AC
D702	VHD1SS119//-1Y	1SS119	AA
D706	RH-PX0252GEZZ	PX0252GE, Supply Reel Sensor	AF
D707	RH-PX0252GEZZ	PX0252GE, Takeup Reel Sensor	AF
D712	VHD1SS119//-1Y	1SS119	AA
D721	VHD1SS119//-1Y	1SS119	AA
D731	VHD1SS119//-1Y	1SS119	AA
D801	VHD1SS119//-1Y	1SS119	AA
D823	RH-EX0634GEZZY	Zener Diode	AB
D1901	RH-EX0670GEZZY	Zener Diode	AB
D1902	VHD1SS119//-1Y	1SS119	AA
D1903	VHD1SS119//-1Y	1SS119	AA
D1904	VHD1SS119//-1Y	1SS119	AA
D1905	VHD1SS119//-1Y	1SS119	AA

Ref. No.	Part No.	★	Description	Code
DUNTKB210TEV3 VCR MAIN PWB UNIT(Continued)				
D1907	VHD1SS119//-1Y		1SS119	AA
D1908	RH-EX0634GEZZY		Zener Diode	AB
D1909	VHD1SS119//-1Y		1SS119	AA
D1971	RH-EX0673GEZZY		Zener Diode	AB
D6005	VHD1SS119//-1Y		1SS119	AA
D6006	VHD1SS119//-1Y		1SS119	AA
Q701	RH-PX0233GEZZ		PX0233GE, Start Sensor	AD
Q702	RH-PX0233GEZZ		PX0233GE, End Sensor	AD
PACKAGED CIRCUITS				
X501	RCRSB0204GEZZ+		Crystal	AG
X701	RCRSB0205GEZZ+		Crystal	AM
X702	RCRSB0138GEZZ		Crystal	AD
COILS AND TRANSFORMER				
L101	VP-CF101K0000Y		Peaking, 100µH	AB
L104	VP-XF100K0000Y		Peaking, 10µH	AB
L201	VP-XF820K0000+		Peaking, 82µH	AB
L301	VP-MK101K0000+		Peaking, 100µH	AB
L351	VP-MK101K0000+		Peaking, 100µH	AB
L503	VP-XF120K0000+		Peaking, 12µH	AB
L602	VP-DF221K0000Y		Peaking, 220µH	AB
⚠ T601	RTRNHA001WJZZ		OSC. Transformer	AD
CAPACITORS				
C102	VCKYCY1HB562KS	5600p	50V Ceramic	AA
C103	VCEA9M1CW106M+	10	16V Electrolytic	AB
C105	VCEA0A0JW477M+	470	6.3V Electrolytic	AC
C106	VCKYPA1HF103Z+	0.01	50V Ceramic	AA
C113	VCEA9A1HW105M+	1	50V Electrolytic	AB
C114	VCKYD41HB271KY	270p	50V Ceramic	AB
C144	VCEA9M1HW335M+	3.3	50V Electrolytic	AB
C145	VCEA9M1HW335M+	3.3	50V Electrolytic	AB
C146	VCEA9M1HW105M+	1	50V Electrolytic	AB
C148	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C160	VCEA9M1HW225M+	2.2	50V Electrolytic	AB
C162	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C163	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C164	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C165	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C166	VCKYCY1EB223KS	0.022	25V Ceramic	AA
C167	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C168	VCEA9M1CW106M+	10	16V Electrolytic	AB
C169	VCEA9M1HW105M+	1	50V Electrolytic	AB
C201	VCEA9M0JW476M+	47	6.3V Electrolytic	AB
C202	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C203	VCCCCY1HH151JS	150p	50V Ceramic	AA
C204	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C205	VCCCCY1HH560JS	56p	50V Ceramic	AA
C206	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C207	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C208	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C209	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C210	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C211	VCEA9M1HW335M+	3.3	50V Electrolytic	AB
C212	VCEA9M1CW106M+	10	16V Electrolytic	AB
C213	VCEA9M1HW225M+	2.2	50V Electrolytic	AB
C214	VCEA9M1HW105M+	1	50V Electrolytic	AB
C215	VCEA9M1HW105M+	1	50V Electrolytic	AB
C216	VCEA9M1HW105M+	1	50V Electrolytic	AB
C217	VCEA9M0JW476M+	47	6.3V Electrolytic	AB
C218	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C219	VCKYCY1CB104KS	0.1	16V Ceramic	AA
C220	VCKYCY1CB104KS	0.1	16V Ceramic	AA
C221	VCEA9M1CW106M+	10	16V Electrolytic	AB
C223	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C227	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C251	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C252	VCEA9M0JW476M+	47	6.3V Electrolytic	AB
C301	VCEA9M0JW476M+	47	6.3V Electrolytic	AB
C302	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C303	VCKYCY1HB102KS	1000p	50V Ceramic	AA
C304	VCKYCY1HB562KS	5600p	50V Ceramic	AA
C305	VCKYCY1HB562KS	5600p	50V Ceramic	AA
C306	VCKYCY1HB102KS	1000p	50V Ceramic	AA
C307	VCKYCY1HB102KS	1000p	50V Ceramic	AA
C308	VCKYCY1HB562KS	5600p	50V Ceramic	AA
C309	VCKYCY1HB562KS	5600p	50V Ceramic	AA
C310	VCKYCY1HB102KS	1000p	50V Ceramic	AA
C311	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C312	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C319	VCCCCY1HH100DS	10p	50V Ceramic	AA
C320	VCCCCY1HH100DS	10p	50V Ceramic	AA
C351	VCEA9M0JW476M+	47	6.3V Electrolytic	AB
C352	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C353	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C354	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C356	VCCCCY1HH101JS	100p	50V Ceramic	AA
C357	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C358	VCKYCY1CB104KS	0.1	16V Ceramic	AB
C501	VCEA9M0JW107M+	100	6.3V Electrolytic	AB
C502	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C503	VCKYCY1HB472KS	4700p	50V Ceramic	AA
C504	VCEA9M1HW225M+	2.2	50V Electrolytic	AB
C505	VCKYCY1EB223KS	0.022	25V Ceramic	AA
C506	VCEA9M1HW474M+	0.47	50V Electrolytic	AB
C507	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C508	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C509	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C511	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C512	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C513	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C514	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C515	VCKYCY1HB331KS	330p	50V Ceramic	AA
C517	VCEA9M1HW335M+	3.3	50V Electrolytic	AB
C518	VCKYCY1CB333KS	0.033	16V Ceramic	AA
C521	VCCCCY1HH5R0CS	5p	50V Ceramic	AA
C602	VCKYCY1EB103KS	0.01	25V Ceramic	AA
C603	VCEA9M1CW106M+	10	16V Electrolytic	AB
C604	VCKYCY1HB821KS	820p	50V Ceramic	AA
C605	VCEA9M1CW106M+	10	16V Electrolytic	AB
C606	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C607	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C608	VCEA9M0JW226M+	22	6.3V Electrolytic	AB
C611	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C617	VCEA9M1CW476M+	47	16V Electrolytic	AB
C618	VCKYCY1EB103KS	0.01	25V Ceramic	AA
C619	VCKYCY1EB103KS	0.01	25V Ceramic	AA
C620	VCEA9M1CW106M+	10	16V Electrolytic	AB
C621	VCQPYA2AA562J+	5600p	100V Film	AC
C622	VCKYCY1HB222KS	2200p	50V Ceramic	AA
C634	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C636	VCKYCY1HB222KS	2200p	50V Ceramic	AA
C651	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C652	VCEA9M0JW336M+	33	6.3V Electrolytic	AB
C653	VCEA9M1CW106M+	10	16V Electrolytic	AB
C654	VCEA9M1CW106M+	10	16V Electrolytic	AB
C655	VCEA9M1CW106M+	10	16V Electrolytic	AB
C657	VCKYCY1EB153KS	0.015	25V Ceramic	AA
C659	VCEA9M1HW105M+	1	50V Electrolytic	AB
C660	VCEA9M1HW105M+	1	50V Electrolytic	AB
C661	VCEA9M1HW475M+	4.7	50V Electrolytic	AB
C662	VCEA9M0JW336M+	33	6.3V Electrolytic	AB
C663	VCEA9M1CW106M+	10	16V Electrolytic	AB
C664	VCEA9M1CW106M+	10	16V Electrolytic	AB
C665	VCEA9M1CW106M+	10	16V Electrolytic	AB
C667	VCKYCY1EB153KS	0.015	25V Ceramic	AA
C669	VCEA9M1HW105M+	1	50V Electrolytic	AB
C670	VCEA9M1HW105M+	1	50V Electrolytic	AB
C671	VCEA9M1CW107M+	100	16V Electrolytic	AB
C672	VCKYCY1CF224ZS	0.22	16V Ceramic	AB
C673	VCEA9M0JW226M+	22	6.3V Electrolytic	AB
C674	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C675	VCKYCY1CF104ZS	0.1	16V Ceramic	AA
C677	VCEA9M1CW106M+	10	16V Electrolytic	AB
C678	VCKYCY1HF103ZS	0.01	50V Ceramic	AA
C679	VCKYCY1CF224ZS	0.22	16V Ceramic	AB

DUNTKB210TEV3
VCR MAIN PWB UNIT(Continued)

Ref. No.	Part No.	★		Description	Code
C681	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C682	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C683	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C686	VCKYCY0JF105ZS	1	6.3V	Ceramic	AB
C687	VCKYCY0JF105ZS	1	6.3V	Ceramic	AB
C691	VCEA9M0JW227M+	220	6.3V	Electrolytic	AB
C701	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C702	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C703	VCKYCY0JF105ZS	1	6.3V	Ceramic	AB
C704	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C705	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C706	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C707	VCCCCY1HH120JS	12p	50V	Ceramic	AA
C708	VCCCCY1HH120JS	12p	50V	Ceramic	AA
C709	VCCCCY1HH180JS	18p	50V	Ceramic	AA
C710	VCCCCY1HH180JS	18p	50V	Ceramic	AA
C713	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C714	VCCCCY1HH330JS	33p	50V	Ceramic	AA
C715	VCCCCY1HH101JS	100p	50V	Ceramic	AA
C716	VCKYCY0JB105KY	1	6.3V	Ceramic	AC
C717	VCKYCY0JF105ZS	1	6.3V	Ceramic	AB
C718	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C721	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C722	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C723	VCKYCY1EB473KS	0.047	25V	Ceramic	AB
C724	VCKYCY1EB473KS	0.047	25V	Ceramic	AB
C725	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C726	VCKYCY1HB102KS	1000p	50V	Ceramic	AA
C731	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C732	VCEA9M0JW226M+	22	6.3V	Electrolytic	AB
C733	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C734	VCKYCY1HB102KS	1000p	50V	Ceramic	AA
C735	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C740	VCKYCY1HB221KS	220p	50V	Ceramic	AA
C741	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C742	VCEA9M0JW226M+	22	6.3V	Electrolytic	AB
C743	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C744	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C750	VCEA2A1VW107M+	100	35V	Electrolytic	AB
C751	VCKYD41CY103NY	0.01	16V	Ceramic	AB
C752	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C753	VCKYD41CY103NY	0.01	16V	Ceramic	AB
C754	VCKYD41CY103NY	0.01	16V	Ceramic	AB
C755	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C756	VCCCCY1HH101JS	100p	50V	Ceramic	AA
C757	VCCCCY1HH101JS	100p	50V	Ceramic	AA
C760	VCEA9M1CW476M+	47	16V	Electrolytic	AB
C781	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C782	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C783	VCKYCY1HB102KS	1000p	50V	Ceramic	AA
C784	VCKYCY1HB102KS	1000p	50V	Ceramic	AA
C785	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C786	VCEA9M1HW105M+	1	50V	Electrolytic	AB
C787	VCEA2A0JW477M+	470	6.3V	Electrolytic	AC
C789	VCEA0A0JW108M+	1000	6.3V	Electrolytic	AC
C791	VCKYD41HF104ZY	0.1	50V	Ceramic	AA
C797	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C798	VCEAKM1CW476M+	47	16V	Electrolytic	AB
C801	VCCCCY1HH470JS	47p	50V	Ceramic	AA
C802	VCCCCY1HH470JS	47p	50V	Ceramic	AA
C821	VCKYD41CY103NY	0.01	16V	Ceramic	AB
C822	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C823	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C862	VCKYCY1HB102KY	1000p	50V	Ceramic	AA
C863	VCKYCY1HB102KY	1000p	50V	Ceramic	AA
C864	VCKYCY1HB102KY	1000p	50V	Ceramic	AA
C947	VCEA0A1CW107M+	100	16V	Electrolytic	AC
C952	VCEA9A0JW227M+	220	6.3V	Electrolytic	AB
C1901	VCEA9M1HW105M+	1	50V	Electrolytic	AB
C1902	VCEA9M0JW226M+	22	6.3V	Electrolytic	AB
C1903	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C1905	VCEA9M0JW226M+	22	6.3V	Electrolytic	AB
C1906	VCEA9M0JW226M+	22	6.3V	Electrolytic	AB
C1907	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C2001	VCEA9M1HW105M+	1	50V	Electrolytic	AB
C2002	VCEA9M1HW105M+	1	50V	Electrolytic	AB
C2003	VCKYCY1CB104KS	0.1	16V	Ceramic	AB
C2005	VCKYD41CY103NY	0.01	16V	Ceramic	AB
C2007	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C2008	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C2010	VCEA9M0JW476M+	47	6.3V	Electrolytic	AB
C2011	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C2012	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C2014	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C2015	VCKYCY1CB104KS	0.1	16V	Ceramic	AB
C2016	VCKYCY1CB104KS	0.1	16V	Ceramic	AB
C2017	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C2018	VCKYCY1HF103ZS	0.01	50V	Ceramic	AA
C2019	VCKYCY1CB104KS	0.1	16V	Ceramic	AB
C2020	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C2021	VCEA0A0JW477M+	470	6.3V	Electrolytic	AC
C2022	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB
C2023	VCEA9M1CW226M+	22	16V	Electrolytic	AB
C2024	VCEA9M1CW226M+	22	16V	Electrolytic	AB
C2025	VCEA9M1CW226M+	22	16V	Electrolytic	AB
C2026	VCKYCY1CF104ZS	0.1	16V	Ceramic	AA
C6028	VCEA9M0JW227M+	220	6.3V	Electrolytic	AB
C6030	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C6031	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C6032	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C6033	VCEA9M1CW226M+	22	16V	Electrolytic	AB
C6034	VCEA9M1CW226M+	22	16V	Electrolytic	AB
C6035	VCKYCY1HB222KS	2200p	50V	Ceramic	AA
C6036	VCKYCY1HB222KS	2200p	50V	Ceramic	AA
C6060	VCKYCY1HB221KS	220p	50V	Ceramic	AA
C6061	VCKYCY1HB221KS	220p	50V	Ceramic	AA
C6062	VCKYCY1HB221KS	220p	50V	Ceramic	AA
C6063	VCKYCY1HB221KS	220p	50V	Ceramic	AA
C6101	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C6102	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C6103	VCEA9M1CW106M+	10	16V	Electrolytic	AB
C6104	VCKYCY1EB103KS	0.01	25V	Ceramic	AA
C6106	VCEA9M0JW107M+	100	6.3V	Electrolytic	AB

RESISTORS

RJ1	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ29	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ201	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ202	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ203	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ204	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ702	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ703	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
R104	VRS-CY1JF681JS	680	1/16W	Metal Oxide	AA
R105	VRS-CY1JF681JS	680	1/16W	Metal Oxide	AA
R111	VRD-RA2BE153JY	15k	1/8W	Carbon	AA
R112	VRD-RA2BE153JY	15k	1/8W	Carbon	AA
R142	VRS-CY1JF000JS	0	1/16W	Metal Oxide	AA
R150	VRS-CY1JF682JS	6.8k	1/16W	Metal Oxide	AA
R152	VRS-CY1JF470JS	47	1/16W	Metal Oxide	AA
R153	VRS-CY1JF473JS	47k	1/16W	Metal Oxide	AA
R155	VRD-RA2BE102JY	1k	1/8W	Carbon	AA
R201	VRS-CY1JF682JS	6.8k	1/16W	Metal Oxide	AA
R202	VRS-CY1JF182JS	1.8k	1/16W	Metal Oxide	AA
R203	VRS-CY1JF822JS	8.2k	1/16W	Metal Oxide	AA
R207	VRS-CY1JF101JS	100	1/16W	Metal Oxide	AA
R211	VRS-CY1JF153JS	15k	1/16W	Metal Oxide	AA
R212	VRS-CY1JF153JS	15k	1/16W	Metal Oxide	AA
R241	VRD-RA2BE101JY	100	1/8W	Carbon	AA
R252	VRS-CY1JF151JS	150	1/16W	Metal Oxide	AA
R253	VRS-CY1JF101JS	100	1/16W	Metal Oxide	AA
R254	VRS-CY1JF183JS	18k	1/16W	Metal Oxide	AA
R255	VRS-CY1JF151JS	150	1/16W	Metal Oxide	AA
R301	VRS-CY1JF473JS	47k	1/16W	Metal Oxide	AA
R351	VRS-CY1JF102JS	1k	1/16W	Metal Oxide	AA
R501	VRS-CY1JF681JS	680	1/16W	Metal Oxide	AA
R502	VRS-CY1JF273JS	27k	1/16W	Metal Oxide	AA

DUNTKB210TEV3
VCR MAIN PWB UNIT(Continued)

Ref. No.	Part No.	★	Description			Code
R504	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R601	VRS-CY1JF822JS		8.2k	1/16W	Metal Oxide	AA
R602	VRS-CY1JF274JS		270k	1/16W	Metal Oxide	AA
R603	VRS-CY1JF221JS		220	1/16W	Metal Oxide	AA
R604	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R605	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R606	VRS-CY1JF273JS		27k	1/16W	Metal Oxide	AA
R611	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R612	VRS-CY1JF823JS		82k	1/16W	Metal Oxide	AA
R619	VRS-CY1JF470JS		47	1/16W	Metal Oxide	AA
R620	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R621	VRD-RA2EE4R7JY		4.7	1/4W	Carbon	AA
R622	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R623	VRD-RA2BE223JY		22k	1/8W	Carbon	AA
R624	VRS-CY1JF472JS		4.7k	1/16W	Metal Oxide	AA
R625	VRS-CY1JF222JS		2.2k	1/16W	Metal Oxide	AA
R627	VRS-CY1JF392JS		3.9k	1/16W	Metal Oxide	AA
R635	VRS-CY1JF472JS		4.7k	1/16W	Metal Oxide	AA
R636	VRS-CY1JF561JS		560	1/16W	Metal Oxide	AA
R651	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R652	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R653	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R654	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R655	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R656	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R657	VRD-RA2BE681JY		680	1/8W	Carbon	AA
R658	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R661	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R662	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R663	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R664	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R665	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R666	VRS-CY1JF682JS		6.8k	1/16W	Metal Oxide	AA
R667	VRS-CY1JF681JS		680	1/16W	Metal Oxide	AA
R668	VRD-RA2BE223JY		22k	1/8W	Carbon	AA
R671	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R672	VRS-CY1JF151JS		150	1/16W	Metal Oxide	AA
R673	VRS-CY1JF151JS		150	1/16W	Metal Oxide	AA
R674	VRD-RA2BE473JY		47k	1/8W	Carbon	AA
R675	VRS-CY1JF183JS		18k	1/16W	Metal Oxide	AA
R676	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R677	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R678	VRS-CY1JF273JS		27k	1/16W	Metal Oxide	AA
R681	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R682	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R685	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R686	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R690	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R691	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R693	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R702	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R703	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R704	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R705	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R706	VRS-CY1JF564JS		560k	1/16W	Metal Oxide	AA
R708	VRS-CY1JF332JS		3.3k	1/16W	Metal Oxide	AA
R709	VRS-CY1JF222JS		2.2k	1/16W	Metal Oxide	AA
R713	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R714	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R715	VRS-CY1JF472JS		4.7k	1/16W	Metal Oxide	AA
R716	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R717	VRS-CY1JF123JS		12k	1/16W	Metal Oxide	AA
R718	VRS-CY1JF563JS		56k	1/16W	Metal Oxide	AA
R719	VRS-CY1JF183JS		18k	1/16W	Metal Oxide	AA
R721	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R722	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R724	VRS-CY1JF104JS		100k	1/16W	Metal Oxide	AA
R725	VRS-CY1JF332JS		3.3k	1/16W	Metal Oxide	AA
R726	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R727	VRS-CY1JF154JS		150k	1/16W	Metal Oxide	AA
R728	VRS-CY1JF332JS		3.3k	1/16W	Metal Oxide	AA
R729	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R731	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R732	VRS-CY1JF154JS		150k	1/16W	Metal Oxide	AA
R733	VRS-CY1JF105JS		1M	1/16W	Metal Oxide	AA
R735	VRS-CY1JF104JS		100k	1/16W	Metal Oxide	AA
R736	VRS-CY1JF822JS		8.2k	1/16W	Metal Oxide	AA
R737	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R738	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R739	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R741	VRS-CY1JF123JS		12k	1/16W	Metal Oxide	AA
R742	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R743	VRS-CY1JF563JS		56k	1/16W	Metal Oxide	AA
R744	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R745	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R746	VRS-CY1JF182JS		1.8k	1/16W	Metal Oxide	AA
R747	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R748	VRS-CY1JF681JS		680	1/16W	Metal Oxide	AA
R750	VRD-RA2BE473JY		47k	1/8W	Carbon	AA
R751	VRD-RA2BE562JY		5.6k	1/8W	Carbon	AA
R752	VRD-RA2BE562JY		5.6k	1/8W	Carbon	AA
R753	VRD-RA2EE181JY		180	1/4W	Carbon	AA
R755	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R756	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R769	VRS-CY1JF1R0JS		1	1/16W	Metal Oxide	AA
R770	VRS-CY1JF1R0JS		1	1/16W	Metal Oxide	AA
R771	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R781	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R782	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R783	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R784	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R785	VRD-RA2BE391JY		390	1/8W	Carbon	AA
R786	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R788	VRS-CY1JF104JS		100k	1/16W	Metal Oxide	AA
R789	VRD-RA2BE391JY		390	1/8W	Carbon	AA
R790	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R792	VRS-CY1JF104JS		100k	1/16W	Metal Oxide	AA
R802	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R803	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R805	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R806	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R811	VRD-RA2BE183JY		18k	1/8W	Carbon	AA
R812	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R821	VRD-RA2BE183JY		18k	1/8W	Carbon	AA
R841	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R842	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R843	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R844	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R853	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R855	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R856	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R857	VRD-RA2BE472JY		4.7k	1/8W	Carbon	AA
R858	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R859	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R867	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R1203	VRS-CY1JF750JS		75	1/16W	Metal Oxide	AA
R1204	VRS-CY1JF750JS		75	1/16W	Metal Oxide	AA
R1208	VRS-CY1JF750JS		75	1/16W	Metal Oxide	AA
R1209	VRS-CY1JF750JS		75	1/16W	Metal Oxide	AA
R1210	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R1211	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R1214	VRD-RA2BE750JY		75	1/8W	Carbon	AA
R1215	VRD-RA2BE750JY		75	1/8W	Carbon	AA
R1216	VRD-RA2BE750JY		75	1/8W	Carbon	AA
R1901	VRD-RA2BE472JY		4.7k	1/8W	Carbon	AA
R1902	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R1904	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1905	VRD-RA2BE472JY		4.7k	1/8W	Carbon	AA
R1906	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R1907	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1909	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1910	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1912	VRD-RA2BE471JY		470	1/8W	Carbon	AA
R1913	VRD-RA2BE471JY		470	1/8W	Carbon	AA
R1915	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R1916	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R1917	VRD-RM2HD102JY		1k	1/2W	Carbon	AA

DUNTKB210TEV3
VCR MAIN PWB UNIT(Continued)

Ref. No.	Part No.	★	Description			Code
R1918	VRS-CY1JF224JS		220k	1/16W	Metal Oxide	AA
R1919	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1920	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R1921	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R1922	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R1923	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R1971	VRD-RM2HD152JY		1.5k	1/2W	Carbon	AA
R2001	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R2005	VRS-CY1JF182JS		1.8k	1/16W	Metal Oxide	AA
R2006	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R2010	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R2013	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R2017	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R6001	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R6036	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R6037	VRS-CY1JF102JS		1k	1/16W	Metal Oxide	AA
R6038	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R6039	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R6040	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R6041	VRS-CY1JF223JS		22k	1/16W	Metal Oxide	AA
R6042	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R6043	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R6044	VRS-CY1JF474JS		470k	1/16W	Metal Oxide	AA
R6045	VRS-CY1JF474JS		470k	1/16W	Metal Oxide	AA
R6046	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R6047	VRS-CY1JF153JS		15k	1/16W	Metal Oxide	AA
R6048	VRS-CY1JF681JS		680	1/16W	Metal Oxide	AA
R6049	VRD-RA2BE681JY		680	1/8W	Carbon	AA
R6050	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R6051	VRS-CY1JF473JS		47k	1/16W	Metal Oxide	AA
R6052	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R6053	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R6101	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R6102	VRS-CY1JF272JS		2.7k	1/16W	Metal Oxide	AA
R6103	VRD-RM2HD101JY		100	1/2W	Carbon	AA
R6104	VRD-RA2BE151JY		150	1/8W	Carbon	AA
R6105	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R6106	VRS-CY1JF681JS		680	1/16W	Metal Oxide	AA
R6107	VRS-CY1JF222JS		2.2k	1/16W	Metal Oxide	AA
R6109	VRS-CY1JF103JS		10k	1/16W	Metal Oxide	AA
R6802	VRS-CY1JF000JS		0	1/16W	Metal Oxide	AA
R7701	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7704	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7705	VRD-RA2BE101JY		100	1/8W	Carbon	AA
R7706	VRD-RA2BE101JY		100	1/8W	Carbon	AA
R7708	VRD-RA2BE101JY		100	1/8W	Carbon	AA
R7709	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7710	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7711	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7712	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7713	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7714	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7715	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7716	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7717	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7718	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7719	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7721	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7722	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7728	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7729	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7730	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7731	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7732	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7733	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7734	VRD-RA2BE101JY		100	1/8W	Carbon	AA
R7735	VRD-RA2BE101JY		100	1/8W	Carbon	AA
R7736	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7738	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA
R7739	VRS-CY1JF101JS		100	1/16W	Metal Oxide	AA

Ref. No.	Part No.	★	Description	Code
SWITCHES				
S701	QSW-F0042AJZZ		Switch, REC Tip SW	AG
S702	QSW-F0043GEZZ		Switch, Cassette SW	AD
S704	QSW-RA001WJZZ		Switch	AF
BALUNES				
FB702	RBLN-0090GEZZY		Balun, BLN-0090GE	AB
FB1202	RBLN-0077TAZZS		Balun, BLN-0077TA	AB
FB1203	RBLN-0077TAZZS		Balun, BLN-0077TA	AB
MISCELLANEOUS PARTS				
CN202	QSOCN1199REZZ		Socket, 11Pin	AD
CN501	QSOCN2999REZZ		Socket, 29Pin	AE
CN801	QSOCN0895REZZ		Socket, 8Pin	AC
CN802	QSOCN1095REZZ		Socket, 10Pin	AC
CN803	QSOCN1595REZZ		Socket, 15Pin	AD
J1201	QSOCD0445AJZZ		Socket, 5Pin	AF
J1202	QJAKL0025AJZZ		Jack, 14Pin	AH
J1204	QTANJ0412AJZZ		Terminal, 5Pin	AH
J1205	QJAKGA010WJZZ		Jack, 5Pin	AH
P701	QPLGZ1283GEZZ		Plug, 12Pin	AE
P7003	QPLGN1278GEZZ		Plug, 12Pin	AC
SC301	QSOCNA006WJZZ		Socket, 9PIn	AD
SC601	QSOCN0611REN1		Socket, 6Pin	AC
SC602	QSOCZ0293GEZZ		Socket, 2Pin	AC
TP201	QPLGN0447REZZ		Plug, 4Pin	AA
W851	LHLDZ2185AJ00		Holder	AB
W852	LHLDZ2185AJ00		Holder	AB

DUNTKB211TEV2
DVD OPERATION PWB UNIT

Ref. No.	Part No.	★	Description	Code
DISPLAYS				
LCD8002	RLCDD0005GEZZ		Display	AN
LCD8052	RLCDDA006WJZZ		Display	AM
INTEGRATED CIRCUITS				
IC8002	VHiPT6596++-1Q		PT6596++, LCD Driver	AM
IC8051	VHiPT6596++-1Q		PT6596++, LCD Driver	AM
TRANSISTOR				
Q8050	VSKRC102S//-1Y		KRC102S	AA
LED'S				
D8001	RH-PXA008WJZZ+		PhotoDiode, B/L LED	AF
D8002	RH-PXA008WJZZ+		PhotoDiode, B/L LED	AF
D8005	RH-PX0297GEZZ+		PhotoDiode, DVD LED	AD
D8006	RH-PXA008WJZZ+		PhotoDiode, VTR LED	AF
D8007	RH-PX0297GEZZ+		PhotoDiode, DVD LED	AD
D8051	RH-PX0449AJZZ+		PhotoDiode, Timer LED	AC
D8053	RH-PX0449AJZZ+		PhotoDiode, Dub LED	AC
D8054	RH-PXA021WJZZ+		PhotoDiode, B/L LED	AD
D8055	RH-PXA021WJZZ+		PhotoDiode, B/L LED	AD
D8056	RH-PXA021WJZZ+		PhotoDiode, B/L LED	AD
D8057	RH-PXA021WJZZ+		PhotoDiode, B/L LED	AD
CAPACITORS				
C8001	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8002	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8003	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8004	VCEA9M1CW106M+		10 16V Electrolytic	AB
C8005	VCEA9M1CW106M+		10 16V Electrolytic	AB
C8006	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8007	VCCCCY1HH101JY		100p 50V Ceramic	AA
C8008	VCCCCY1HH100DY		10p 50V Ceramic	AA
C8009	VCCCCY1HH101JY		100p 50V Ceramic	AA
C8010	VCKYCY1HB102KY		1000p 50V Ceramic	AA
C8051	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8052	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8053	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8054	VCEA9M1CW106M+		10 16V Electrolytic	AB
C8055	VCKYCY1HF103ZY		0.01 50V Ceramic	AA
C8056	VCKYCY1HB102KY		1000p 50V Ceramic	AA

Ref. No.	Part No.	★	Description	Code

DUNTKB211TEV2
DVD OPERATION PWB UNIT(Continued)

C8057	VCKYCY1HB102KY		1000p	50V	Ceramic	AA
C8058	VCKYCY1HB102KY		1000p	50V	Ceramic	AA
C8059	VCKYCY1HB102KY		1000p	50V	Ceramic	AA

RESISTORS

RJ801	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ803	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
RJ805	VRS-CY1JF000J	0	1/16W	Metal Oxide	AA
R8001	VRS-CY1JF473JY	47k	1/16W	Metal Oxide	AA
R8002	VRD-RA2BE391JY	390	1/8W	Carbon	AA
R8005	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8006	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8007	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8008	VRD-RA2BE101JY	100	1/8W	Carbon	AA
R8009	VRD-RA2BE271JY	270	1/8W	Carbon	AA
R8010	VRD-RA2BE471JY	470	1/8W	Carbon	AA
R8050	VRD-RA2BE271JY	270	1/8W	Carbon	AA
R8051	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8052	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8053	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8056	VRS-CY1JF473JY	47k	1/16W	Metal Oxide	AA
R8057	VRD-RA2BE181JY	180	1/8W	Carbon	AA
R8058	VRD-RA2BE181JY	180	1/8W	Carbon	AA
R8062	VRS-CY1JF000JY	0	1/16W	Metal Oxide	AA

SWITCHES

SW8051	QSW-K0003AJZZ+	Switch, Open/Close	AB
SW8052	QSW-K0003AJZZ+	Switch, Play	AB
SW8053	QSW-K0003AJZZ+	Switch, Stop	AB
SW8054	QSW-K0003AJZZ+	Switch, VTR/DVD	AB

MISCELLANEOUS PARTS

CN8052	QSOCN1095REZZ	Socket, 10Pin	AC
CN8053	QSOCN1595REZZ	Socket, 15Pin	AD
RMC8001	RRMCU0233CEZZ	Remote Receiver	AF

DUNTKB212TEV2
VCR OPERATION PWB UNIT

RESISTORS

R8011	VRS-CY1JF272JY	2.7k	1/16W	Metal Oxide	AA
R8012	VRS-CY1JF332JY	3.3k	1/16W	Metal Oxide	AA
R8014	VRS-CY1JF332JY	3.3k	1/16W	Metal Oxide	AA
R8015	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8016	VRS-CY1JF472JY	4.7k	1/16W	Metal Oxide	AA
R8017	VRS-CY1JF822JY	8.2k	1/16W	Metal Oxide	AA
R8019	VRS-CY1JF822JY	8.2k	1/16W	Metal Oxide	AA
R8022	VRS-CY1JF103JY	10k	1/16W	Metal Oxide	AA
R8023	VRD-RA2BE223JY	22k	1/8W	Carbon	AA
R8024	VRD-RA2BE563JY	56k	1/8W	Carbon	AA
R8025	VRS-CY1JF101JY	100	1/16W	Metal Oxide	AA
R8026	VRS-CY1JF750JY	75	1/16W	Metal Oxide	AA

SWITCHES

SW8055	QSW-K0003AJZZ+	Switch, Power	AB
SW8056	QSW-K0003AJZZ+	Switch, Stop/Eject	AB
SW8057	QSW-K0003AJZZ+	Switch, CH–	AB
SW8058	QSW-K0003AJZZ+	Switch, REW	AB
SW8059	QSW-K0003AJZZ+	Switch, Play	AB
SW8060	QSW-K0003AJZZ+	Switch, CH+	AB
SW8061	QSW-K0003AJZZ+	Switch, REC	AB

MISCELLANEOUS PARTS

CN8001	QSOCN0895REZZ	Socket, 8Pin	AC
J8001	QJAKE0190CEZZ	Jack, 3Pin	AE
J8002	QJAKE0257GEZZ	Jack, 3Pin	AE
J8003	QJAKE0180CEZZ	Jack, 3Pin	AE

Ref. No.	Part No.	★	Description	Code

DUNTKB213TEV2
POWER PWB UNIT

INTEGRATED CIRCUITS

IC903	VHiMM1431AT-1+	MM1431AT	AD
IC908	VHiPQ30RV11-1	PQ30RV11, 1.8V	AF
IC909	VHiPQ15RW11-1	PQ15RW11, 3.3V	AG
IC911	VHiKA7808AP-1	KA7808AP	AE

TRANSISTORS

⚠ Q901	VS2SK2848//-1	2SK2848		AH
⚠ Q902	VS2SC3576AC-1+	2SC3576AC		AC
Q933	VS2SB1443TV1E+	2SB1443TV, PC_10V SW		AE
Q934	VSKRC102S//-1Y	KRC102S		AA
Q935	VS2SB1443TV1E+	2SB1443TV, DVD_1.8V SW		AE
Q936	VSKRC102S//-1Y	KRC102S		AA
Q937	VS2SB1443TV1E+	2SB1443TV, DVD_3.3V SW		AE
Q938	VSKRC102S//-1Y	KRC102S		AA
Q939	VS2SA1271-Y-1+	2SA1271-Y, DVD D_5V SW		AC
Q940	VSKRC103S//-1Y	KRC103S		AA
Q941	VS2SA1271-Y-1+	2SA1271-Y, DVD PC_5V SW		AC
Q942	VSKRC103S//-1Y	KRC103S		AA

DIODES AND LED'S

⚠ D901	VHDRL1N4004-1Y	RL1N4004	AB
⚠ D902	VHDRL1N4004-1Y	RL1N4004	AB
⚠ D903	VHDRL1N4004-1Y	RL1N4004	AB
⚠ D904	VHDRL1N4004-1Y	RL1N4004	AB
⚠ D905	RH-EX0617GEZZY	Zener Diode, 6.2A	AA
⚠ D907	VHD1SS119//-1Y	1SS119	AA
D909	RH-EX0646GEZZY	Zener Diode, 15V	AA
D921	VHD15DF1FC/1E	15DF1FC	AD
D922	VHD15DF1FC/1E	15DF1FC	AD
D923	VHD15DF1FC/1E	15DF1FC	AD
D924	VHDSB240L++1E	SB240L++	AD
D925	VHDSB240L++1E	SB240L++	AD
D929	VHD10ELS4//-1Y	10ELS4	AD
D931	VHD1SS119//-1Y	1SS119	AA
D932	VHD1SS119//-1Y	1SS119	AA
D933	VHD1SS119//-1Y	1SS119	AA
D934	VHD1SS119//-1Y	1SS119	AA
D935	VHD1SS119//-1Y	1SS119	AA
D956	RH-EX0677GEZZY	Zener Diode	AC
⚠ IC902	RH-FX0034CEZZ	PC817	AE

PACKAGED CIRCUIT

⚠ R902	RR-DZ0047CEZZY	Resistor, 2.7M	AD

COILS AND TRANSFORMER

⚠ L901	RCiLF0005AJZZ	Coil, CiLF0005AJ	AE
L922	RCiLP0147GEZZ+	Coil, 10µH	AC
L925	RCiLP0175CEZZ+	Coil, 22µH	AD
⚠ T901	RTRNWA015WJZZ	Transformer	AK

CAPACITORS

⚠ C901	RC-FZ036SCEZZ	0.1	250V	Film		AC
⚠ C902	RC-KZ0091GEZZ	2200p	250V	Ceramic		AC
⚠ C903	RC-KZ0092GEZZ	3300p	AC125V	Ceramic		AC
⚠ C904	RC-EZ0463GEZZ	100	200V	Electrolytic		AG
⚠ C905	VCQYTA1HM222J+	2200p	50V	Mylar		AA
⚠ C909	VCQYTA1HM562K+	5600p	50V	Mylar		AA
⚠ C911	RC-KZ0112CEZZ	100p	2kV	Ceramic		AB
⚠ C914	RC-KZ0091GEZZ	2200p	250V	Ceramic		AC
⚠ C915	RC-KZ0091GEZZ	2200p	250V	Ceramic		AC
C921	VCEA0A1HW477M+	470	50V	Electrolytic		AD
C922	VCEA0A1EW108M+	1000	25V	Electrolytic		AD
C923	VCEA0A1CW108M+	1000	16V	Electrolytic		AD
C924	VCEA0A1AW108M+	1000	10V	Electrolytic		AC
C925	RC-EZ1075CEZZ	2200p	10V	Electrolytic		AF
C927	VCQYTA1HM104K+	0.1	50V	Mylar		AC

Ref. No.	Part No.	★	Description			Code
DUNTKB213TEV2 POWER PWB UNIT(Continued)						
C928	VCQYTA1HM104K+		0.1	50V	Mylar	AC
C929	VCEA0A2AW106M+		10	100V	Electrolytic	AC
C932	VCEA0A1EW108M+		1000	25V	Electrolytic	AD
C935	VCEA0A1AW228M		2200	10V	Electrolytic	AD
C936	VCEA9M1HW105M+		1	50V	Electrolytic	AB
C937	VCEA9M0JW476M+		47	6.3V	Electrolytic	AB
C938	VCEA9M1HW105M+		1	50V	Electrolytic	AB
C939	VCEA9M0JW476M+		47	6.3V	Electrolytic	AB
C944	VCEA0A1HW107M+		100	50V	Electrolytic	AB
C945	VCEA9M1CW107M+		100	16V	Electrolytic	AB
C946	VCEA9M1HW225M+		2.2	50V	Electrolytic	AB
C948	VCEA9M0JW227M+		220	6.3V	Electrolytic	AB
C949	VCEA9M1HW105M+		1	50V	Electrolytic	AB
C950	VCEA9M0JW476M+		47	6.3V	Electrolytic	AB
C952	VCEA9M1CW226M+		22	16V	Electrolytic	AB
RESISTORS						
⚠ R901	VRD-RA2EE474JY		470k	1/4W	Carbon	AA
⚠ R903	VRS-CY1JF224JY		220k	1/16W	Metal Oxide	AA
⚠ R905	VRD-RM2HD681JY		680	1/2W	Carbon	AB
⚠ R907	VRD-RA2BE105JY		1M	1/8W	Carbon	AA
⚠ R908	VRD-RA2HD105JY		1M	1/2W	Carbon	AA
⚠ R910	VRN-VV3DBR22J		0.22	2W	Metal Film	AB
R911	VRD-RA2BE273JY		27k	1/8W	Carbon	AA
R912	VRS-CY1JF183JY		18k	1/16W	Metal Oxide	AA
R914	VRS-CY1JF223JY		22k	1/16W	Metal Oxide	AA
R921	VRS-CY1JF102JY		1k	1/16W	Metal Oxide	AA
R922	VRS-CY1JF223JY		22k	1/16W	Metal Oxide	AA
R923	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R924	VRS-CY1JF102JY		1k	1/16W	Metal Oxide	AA
R925	VRS-CY1JF102JY		1k	1/16W	Metal Oxide	AA
R926	VRD-RA2BE121JY		120	1/8W	Carbon	AA
R927	VRS-CY1JF332JY		3.3k	1/16W	Metal Oxide	AA
R928	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R929	VRS-CY1JF100JY		10	1/16W	Metal Oxide	AA
R931	VRS-CY1JF102JY		1k	1/16W	Metal Oxide	AA
R933	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R934	VRD-RM2HD102JY		1k	1/2W	Carbon	AA
R935	VRS-CY1JF103JY		10k	1/16W	Metal Oxide	AA
R936	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R937	VRS-CY1JF103JY		10k	1/16W	Metal Oxide	AA
R938	VRD-RA2BE221JY		220	1/8W	Carbon	AA
R939	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R940	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R941	VRD-RA2BE103JY		10k	1/8W	Carbon	AA
R942	VRD-RA2BE102JY		1k	1/8W	Carbon	AA
R943	VRS-CY1JF683JY		68k	1/16W	Metal Oxide	AA
R944	VRS-CY1JF102FY		1k	1/16W	Metal Oxide	AA
R945	VRS-CY1JF222FY		2.2k	1/16W	Metal Oxide	AA
R946	VRS-CY1JF681FY		680	1/16W	Metal Oxide	AA
R947	VRS-CY1JF272FY		2.7k	1/16W	Metal Oxide	AA
R950	VRS-CY1JF222JY		2.2k	1/16W	Metal Oxide	AA
R952	VRD-RA2BE222JY		2.2k	1/8W	Carbon	AA
R956	VRS-CY1JF472JY		4.7k	1/16W	Metal Oxide	AA
R957	VRS-CY1JF104JY		100k	1/16W	Metal Oxide	AA
BALUNES						
FB901	RBLN-0090GEZZY		Balun, BLN-0090GE			AB
FB921	RBLN-0090GEZZY		Balun, BLN-0090GE			AB
FB922	RBLN-0090GEZZY		Balun, BLN-0090GE			AB
MISCELLANEOUS PARTS						
⚠ ACC901	QACCDA005WJZZ		AC Cord			AH
CN201	QPLGN0978GEZZ		Plug, 9Pin			AC
⚠ F901	QFS-B3025CEZZ		Fuse, 3A 125V			AD
⚠ FH901	QFSHD1017CEZZ+		Fuse Holder			AC
⚠ FH902	QFSHD1018CEZZ+		Fuse Holder			AC
P902	QPLGN1278GEZZ		Plug, 12Pin			AC
⚠ W901	PRDAF5021AJFW		Heat Sink, Q901			AE
⚠ W902	XBPSD30P10KS0		Screw			AA
W908	PRDAR0083PEFW		Heat Sink, IC908			AD
W909	XBPSD30P10KS0		Screw			AA

Ref. No.	Part No.	★	Description	Code
SUPPLIED ACCESSORIES				
	QCNW-8387AJZZ		RF Cable	AG
	QCNW-8388AJZZ		AV Cable	AK
	RRMCGA053WJSA		Remote Control Unit (NC70U/C)	AV
	RRMCGA053WJSB		Remote Control Unit (NC72U)	AV
	TGAN-3324AJZZ		Guarantee Card(NC70U)	AC
	TiNS-A121WJZZ		Operation Manual (NC70U/72U)	AK
	TiNS-A122WJZZ		Operation Manual (NC70C)	AP
PACKING PARTS *(NOT REPLACEMENT ITEM)*				
	SPAKCA071WJZZ		Packing Case (NC70U/C)	AP
	SPAKCA122WJZZ		Packing Case(NC72U)	AP
	SPAKP0209AJZZ		Wrapping Paper	AD
	SPAKXA023WJZZ		Packing Add.	AH
	SSAKA0001AJZZ		Operation Manual Polyethylene Bag	AB
	TLABV0182AJZZ		No. Label	AB
MECHANISM PARTS (DVD PART)				
401	CMECD0211HJV2		Mecha Chasis Ass'y	BS
401-1	LX-BZ3189GEZZ		Guide Axis Pressing Screw, x4	AB
401-2	NGERH1330AJZZ		Relay Gear1	AC
401-3	NGERH1341AJ00		Relay Gear2	AC
401-4	LX-WZ1030GE00		Relay Gear Washer	AA
401-5	LX-BZ3163GEFN		Motor Screw, x2	AC
401-6	QSW-M0066AJZZ		In SW	AD
401-7	DUNTKB233TEV1		Sled Motor PWB Unit	—
401-8	RMOTV2022AJZZ		Sled Motor	AK
401-9	NGERH1333AJZZ		Sled Motor Gear	AB
401-10	NGERR1021AJZZ		Double Action Rack	AC
401-11	MSPRC0244AJZZ		Rack Spring	AB
401-12	NGERR1024AJZZ		Rack	AC
401-13	LX-HZ0083TAFF		Rack Fixing Screw	AA
401-14	QPLGN0680GEZZ		Plug	AB
409	PCUSG0126AJZZ		Insulator, x4	AD
410	LX-HZ3117AJZZ		Traverse Fixing Screw, x6	AC
413	QCNW-8552AJZZ		Sled Wire	AF
418	QCNW-A362WJZZ		Pickup Relay FFC	AD
419	MSLiP0014AJZZ		Slide Rack	AD
420	LHLDZ2144AJZZ		Traverse Holder	AD
421	QCNW-8375AJZZ		Loading Wire	AD
422	LHLDW1033CE00		Nylon Band Holder	AA
423	RMOTM1097AJZZ		Loading Motor	AM
424	NPLYM0001AJZZ		Loading Motor Pulley	AB
425	QSW-B0011AJZZ		Loading Motor Switch	AE
426	NBLTK0068AJZZ		Loading Belt	AD
427	NGERH1332AJZZ		Pulley Gear	AC
428	NGERP1016AJZZ		Tray Pinion	AC
429	LCHSMA001WJZZ		Base Chassis	AL
431	LCRA-0012GEZZ		Disc Clamper	AF
432	LX-WZ0102GEFD		York Washer	AB
433	PMAGS1001GEZZ		Clamper Magnet	AF
434	GCOVA2164AJZZ		Tray	AH
435	LX-BZ3434AJFD		Loading Motor Fixing Screw, x2	AB

MECHANISM PARTS (VCR PART)

Ref. No.	Part No.	★	Description	Code
1	LBNDK1021AJZZ		Tension Band Ass'y	AC
2	LBOSZ1022AJZZ		Tension Arm boss	AB
4	LBOSZ1006AJZZ		Cassette Stay L	AD
5	LCHSM0186AJZZ		Main Chassis Ass'y	AQ
6	LHLDZA049WJZZ		Loading Motor Block	AD
7	LPOLM0085GEZZ		Supply Pole Base Ass'y	AF
8	LPOLM0086GEZZ		Take-up Pole Base Ass'y	AF
9	MLEVF0544AJZZ		Tension Arm Ass'y	AE
10	MARMP0061AJZZ		Take-up Loading Arm	AC
11	MARMP0062AJZZ		Supply Loading Arm	AC
12	MLEVF0545GEZZ		Pinch Roller Lever Ass'y	AM
13	NBRGP0031AJZZ		Pinch Guide Bearing	AB
16	LANGFA008WJFW		A/C Head Plate	AD
17	LHLDW1895AJZZ		A/C Head FFC Holder	AB
18	MLEVP0347AJZZ		Pinch Double Action Lever	AC
19	MLEVP0344AJZZ		Reverse Guide Lever Ass'y	AE
20	MLEVP0342AJZZ		Take-up Loading Link	AB
21	MLEVP0343AJZZ		Supply Loading Link	AB
23	MLEVP0346AJZZ		Clutch Lever	AC
24	MLEVP0348AJZZ		Supply Main Brake Ass'y	AB
25	MLEVP0349AJZZ		Take-up Main Brake Ass'y	AC
27	MSLiP0016AJZZ		Shifter	AD
28	MSPRD0210AJFJ		Reverse Guide Spring	AB
29	MSPRD0213AJFJ		Tu Loading Double Action Spring	AB
30	MSPRD0214AJFJ		Sup Loading Double Action Spring	AB
31	MSPRT0439AJFJ		Pinch Double Action Spring	AB
32	MSPRT0438AJFJ		Main Brake Spring	AB
33	MSPRT0416AJFJ		Tension Spring	AD
34	NBLTK0069AJ00		H-Reel Belt	AC
35	NDAiV1093AJ00		Reel Disc, x2	AC
36	NGERH1342AJZZ		Loading Connect Gear	AB
37	NGERH1344AJZZ		Master Cam	AD
38	NGERH1343AJZZ		Synchronic Gear	AB
41	NGERH1345AJZZ		Pinch Drive Cam	AC
43	NGERH1299AJZZ		Reel Relay Gear, x2	AE
44	NGERW1081AJZZ		Worm Gear	AB
45	NGERW1082AJZZ		Worm Wheel Gear	AC
46	NiDR-0036AJZZ		Idler Ass'y	AD
48	NPLYV0173AJZZ		Limiter Pulley Ass'y	AF
49	NROLP0131GEZZ		Guide Roller, x2	AL
51	MSPRC0217AJFJ		Guide Roller Spring, x2	AC
52	PREFL1025AJZZ		Light Guide	AC
53	QCNW-A245WJZZ		FFC for Drum Motor	AE
55	QCNW-A247WJZZ		FFC for A/C Head	AD
56	QPWBFB112WJZZ		A/C Head PWB	AC
58	RHEDTA001WJZZ		Full Erase Head	AH
59	RHEDUA001WJZZ		A/C Head Ass'y	AP
60	RMOTMA001WJZZ		Loading Motor	AK
61	RMOTNA001WJZZ		Capstan Motor	AX
62	RMOTP1139GEZZ		Drum Drive Motor	AT
63	DDRMW0043TEX1		Upper and Lower Drum Ass'y	BH
64	QCNW-A244WJZZ		Loading Motor Wire	AB
65	QBRSK0041GEZZ		Drum Earth Brush Ass'y	AD
66	XBPSD26P04500		Screw 2.6P+4.5S(D/M), x6	AB
67	PGiDM0187AJZZ		Open Guide	AC
70	MSPRC0228AJFJ		Azimuth Spring	AB
71	MSPRC0224AJFJ		Height Adjusting Spring	AC
72	LHLDW1894AJZZ		R/T FFC Holder	AB
73	MLEVP0355AJZZ		H-Auto Head Cleaner Ass'y	AC

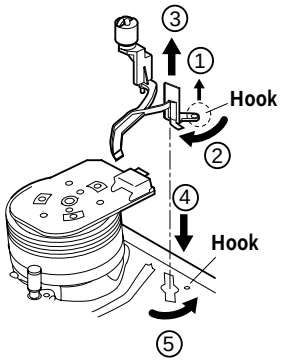
SCREW, NUTS AND WASHERS

Ref. No.	Part No.	★	Description	Code
201	XBPSD26P08000		A/C Head Screw 2.6P+8S	AA
202	LX-BZ3096GEFD		Tilt Adjusting Screw	AA
203	LX-HZ3082GEZZ		Screw WSW 2.6+6(AC)	AD
204	XJPSD26P06000		Screw 2.6+6S(CAPST), x3	AA
205	LX-RZ3015GEFJ		CS Washer, x2	AB
208	XRESJ30-06000		E-Ring(E-3)	AA
209	XWHJZ31-03052		Washer, W3.1 P-5.2-0.3, x2	AC
210	XWHJZ31-04052		Washer, W3.1 P-5.2-0.4, x2	AC
211	XWHJZ31-05052		Washer, W3.1 P-5.2-0.5, x2	AC
212	XWHJZ31-06052		Washer, W3.1 P-5.2-0.6, x2	AC
213	XWHJZ31-07052		Washer, W3.1 P-5.2-0.7, x2	AC
214	XWHJZ31-08052		Washer, W3.1 P-5.2-0.8, x2	AC
215	XHPSD26P05WS0		Loading Motor Block Screw	AC
216	LX-WZ1041GE00		Washer, CW 2-6.0-0.5	AA
219	LX-WZ1098GE00		Washer, CW 2.6-4.7-0.5	AB
221	XBPSD26P06000		Azimuth Adjusting Screw	AA
222	XBPSD26P14000		A/C Head Screw	AA
224	XBPSD30P06000		Screw 3P+6S(DRM FIX), x3	AA

CASSETTE HOUSING CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
300	CHLDX3083TEV1		Cassette Housing Control Ass'y	AP
301	LANGF9661AJFW		Upper Plate	AD
302	LHLDX1049AJ00		Frame (L)	AD
303	LHLDX1050AJ00		Frame (R)	AE
304	LHLDX1051AJZZ		Holder (L)	AC
305	LHLDX1052AJZZ		Holder (R)	AC
306	MARMP0063AJZZ		Drive Arm L	AB
307	MARMP0064AJZZ		Drive Arm R	AC
308	MLEVP0350AJZZ		Drive Lever	AD
309	MLEVP0351AJZZ		Proof Lever	AC
310	MLEVP0352AJ00		Sensor Plate	AB
311	MLEVP0353AJ00		Open Lever	AB
312	MSLiF0079AJFW		Slider	AD
313	MSPRD0212AJFJ		Drive Arm Spring	AB
314	MSPRP0175AJFJ		Cassette Spring, x2	AE
315	MSPRD0215AJFJ		Proof Lever Spring	AB
317	NSFTD0065AJFD		Main Shaft	AD

• Replacing the AHC (Auto Head Cleaner)



• How to remove
Turn the H-AHC ass'y in the direction of (2), lifting the hook of the H-AHC ass'y in the direction of (1). When the hook is undone, pull out the H-AHC ass'y in the direction of (3).
• How to install
Insert the H-AHC ass'y into the hole on the chassis in the direction of (4) and turn it in the direction of (5). Check that the chassis hook and hook of the H-AHC ass'y are engaged.

* Caution when replacing
• Do not allow the AHC ass'y to contact with the drum.
• Do not contaminate the cleaner section of the AHC ass'y with grease, etc.

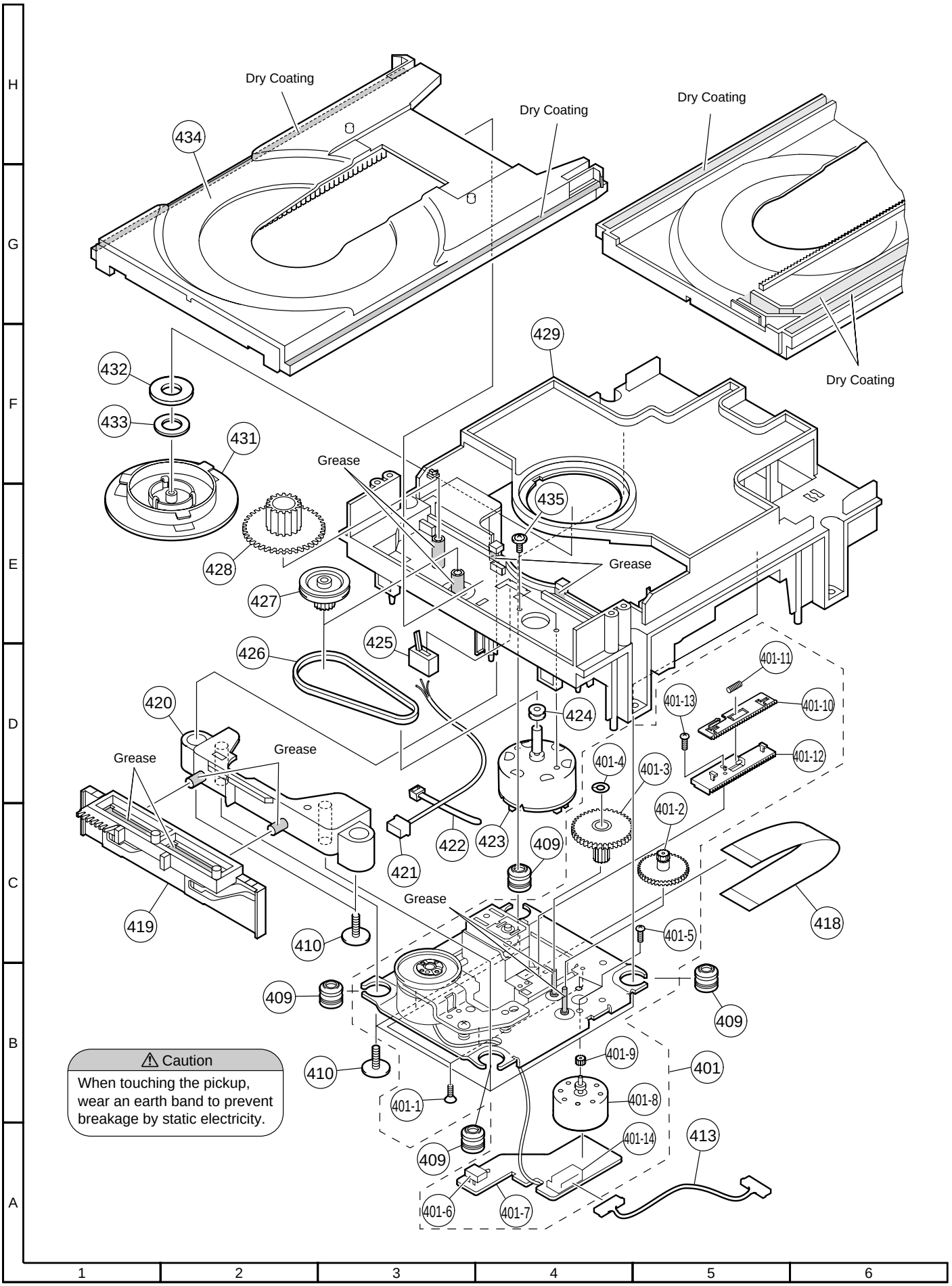
CABINET PARTS

Ref. No.	Part No.	★	Description	Code
2	CCABAA036TEV1		Top Cabinet Ass'y(NC70U)	AV
2	CCABAA036TEV3		Top Cabinet Ass'y(NC70C)	AV
2	CCABAA094TEV1		Top Cabinet Ass'y(NC72U)	AW
2-1	TLABZA052WJZZ		FCC Label(NC70U)	AB
2-1	TLABZA081WJZZ		FCC Label(NC72U)	AB
21	TLABMA049WJZZ		Model Label(NC70U)	AC
21	TLABMA067WJZZ		Model Label(NC70C)	AC
21	TLABMA097WJZZ		Model Label(NC72U)	AC
24	DUNTKB211TEV2		DVD Operation PWB Unit	—
25	DUNTKB212TEV2		VCR Operation PWB Unit	—
26	DUNTKB213TEV2		Power PWB Unit	—
27	DUNTKB209TE6E		DVD Main PWB Unit	—
28	DUNTKB210TEV3		VCR Main PWB Unit	—
29	GBDYUA007WJFW		Bottom Plate	AM
30	GCABB1254AJKZ		Main Frame	AU
31	GCOVAA033WJKZ		Antenna Terminal Cover	AG
32	LANGF9654AJFW		DVD REINF. Angle	AC
33	LANGF9662AJFW		Angle(DVD)	AE
34	LHLDW1072GEZZ		Wire Holder	AA
35	LHLDW1151AJZZ		Edge Holder	AC
36	LX-HZ3087GEFN		Screw for Mecha/Ant.	AB
37	LX-HZ3099GEFD		Screw for DVD Main, x4	AB
38	PGUMS0026AJZZ		Foot Rubber, x2	AB
40	PSLDM4595AJFW		DVD Shield(lower)	AD
41	TLABSA005WJZZ		Caution Label	AB
42	QCNW-A692WJZZ		Connecting Cord	AF
43	QCNW-A693WJZZ		Connecting Cord	AE
44	QCNW-A358WJZZ		Connecting Cord	AD
45	QCNW-A765WJZZ		Connecting Cord	AE
46	QCNW-A360WJZZ		Connecting Cord	AC
47	QCNW-A361WJZZ		Connecting Cord	AG
48	QCNW-A401WJZZ		Connecting Cord(PWR-VCR)	AG
49	XEBSD30P12000		Screw for DVD/Mecha, x11	AA
50	XEPSD30P14XS0		Screw for Mecha, x4	AB
51	XEPSF30P12000		Screw for Rear Panel, x6	AA
52	XHPSD26P06WS0		Screw for Casssete Control, x2	AA
53	XHPSD30P06WS0		Screw for VTR Main/BTM	AA
54	XHPSF30P10WS0		Screw, x2	AA
55	HDECQA032WJSA		Tray Decoration Cover (NC70U/C)	AF
55	HDECQA032WJSB		Tray Decoration Cover (NC72U)	AF
56	LX-HZ3096GEFF		Screw, x5(NC72U)	AB
56	LX-HZ3096GEZZ		Screw, x5(NC70U/C)	AB
57	XEPSD30P14XS0		Screw, x2	AB
58	QCNW-A362WJZZ		Pickup Relay FFC	AD
59	PSPAZA078WJZZ		Spacer, x2	AB

FRONT PANEL PARTS

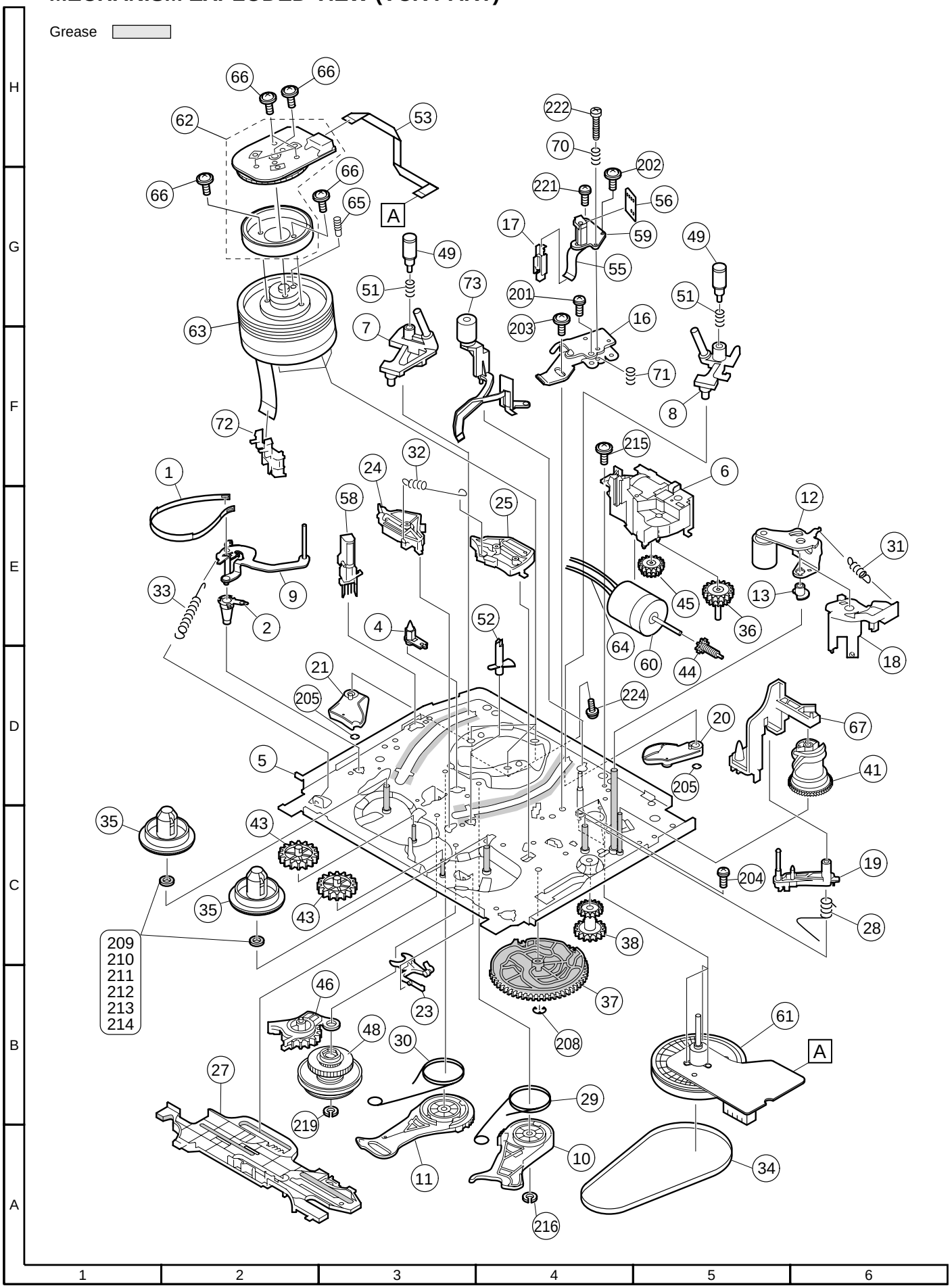
Ref. No.	Part No.	★	Description	Code
600	CPNLCA026TEV1		Front Panel Ass'y (NC70U/C)	AZ
600	CPNLCA026TEV2		Front Panel Ass'y (NC72U)	AZ
600-1	HDECQA033WJSA		Selector Button Dec.	AE
600-2	HDECQA011WJSA		Ring Dec.(NC70U/C)	AE
600-2	HDECQA011WJSB		Ring Dec.(NC72U)	AE
600-3	JBTN-3177AJSA		Selector Button	AD
600-4	PSHEPA001WJZZ		DEF Sheet	AC
600-5	HDECQ2321AJSA		LED Cover	AC
600-6	HDECQA029WJSA		Cassette Flap(NC70U/C)	AF
600-6	HDECQA029WJSB		Cassette Flap(NC72U)	AF
600-7	HDECQA030WJSA		Front Dec.(NC70U/C)	AH
600-7	HDECQA085WJSA		Front Dec.(NC72U)	AH
600-8	HDECQA031WJSA		Window Dec.(NC70U/C)	AH
600-8	HDECQA031WJSB		Window Dec.(NC72U)	AH
600-9	HiNDPA041WJSA		Indicator(VCR) (NC70U/C)	AC
600-9	HiNDPA041WJSB		Indicator(VCR) (NC72U)	AC
600-10	HiNDPA042WJSA		Indicator(DVD) (NC70U/C)	AD
600-10	HiNDPA042WJSB		Indicator(DVD) (NC72U)	AD
600-11	JBTN-A017WJSA		VCR Mode Button (NC70U/C)	AE
600-11	JBTN-A017WJSB		VCR Mode Button (NC72U)	AE
600-12	JBTN-3175AJSA		DVD Mode Button (NC70U/C)	AE
600-12	JBTN-3175AJSC		DVD Mode Button (NC72U)	AE
600-13	MSPRD0105AJFJ		Cassette Flap Spring	AB
600-14	PSPAZA073WJZZ		Spacer	AA

MECHANISM EXPLODED VIEW (DVD PART)



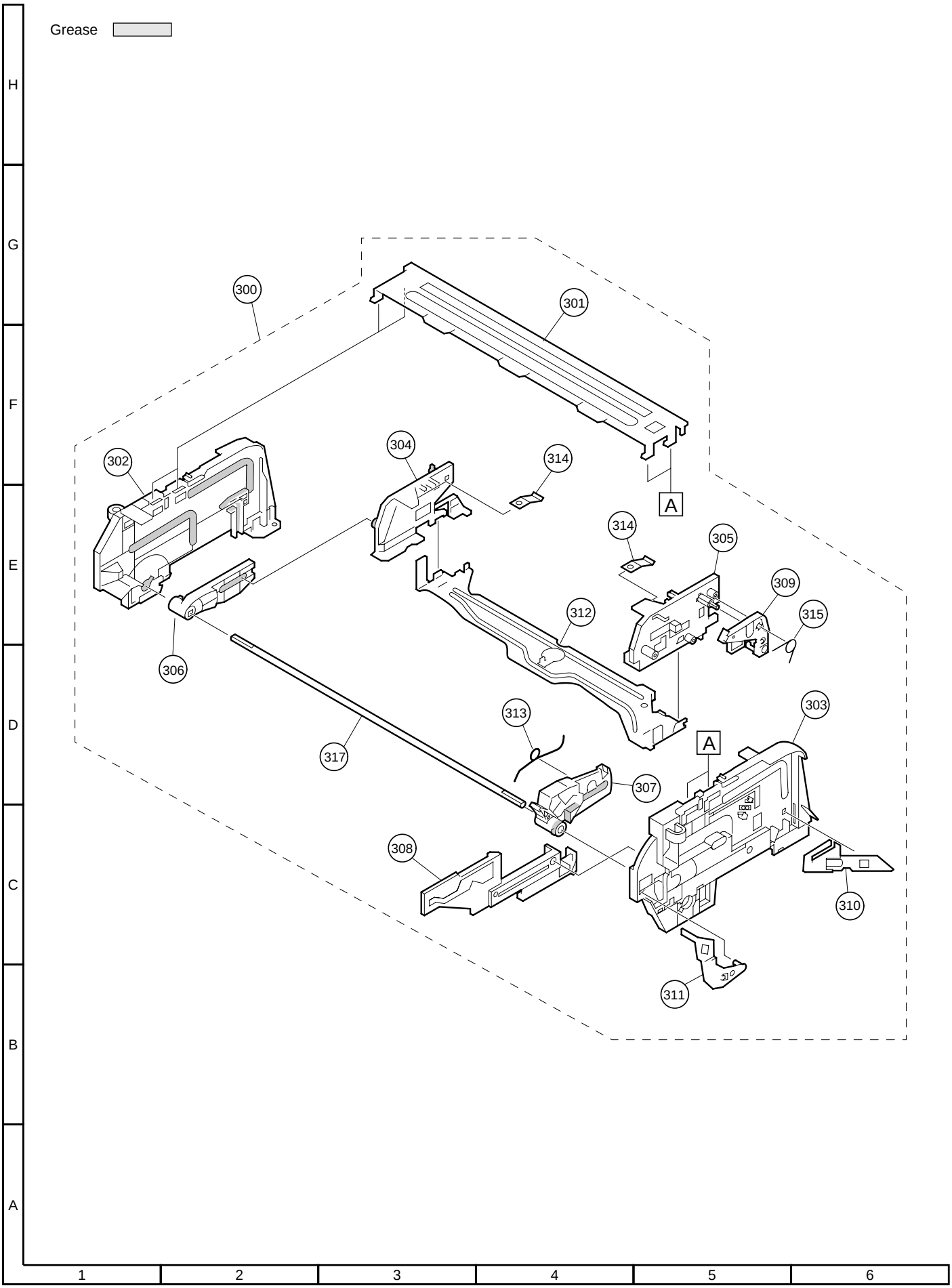
MECHANISM EXPLODED VIEW (VCR PART)

Grease

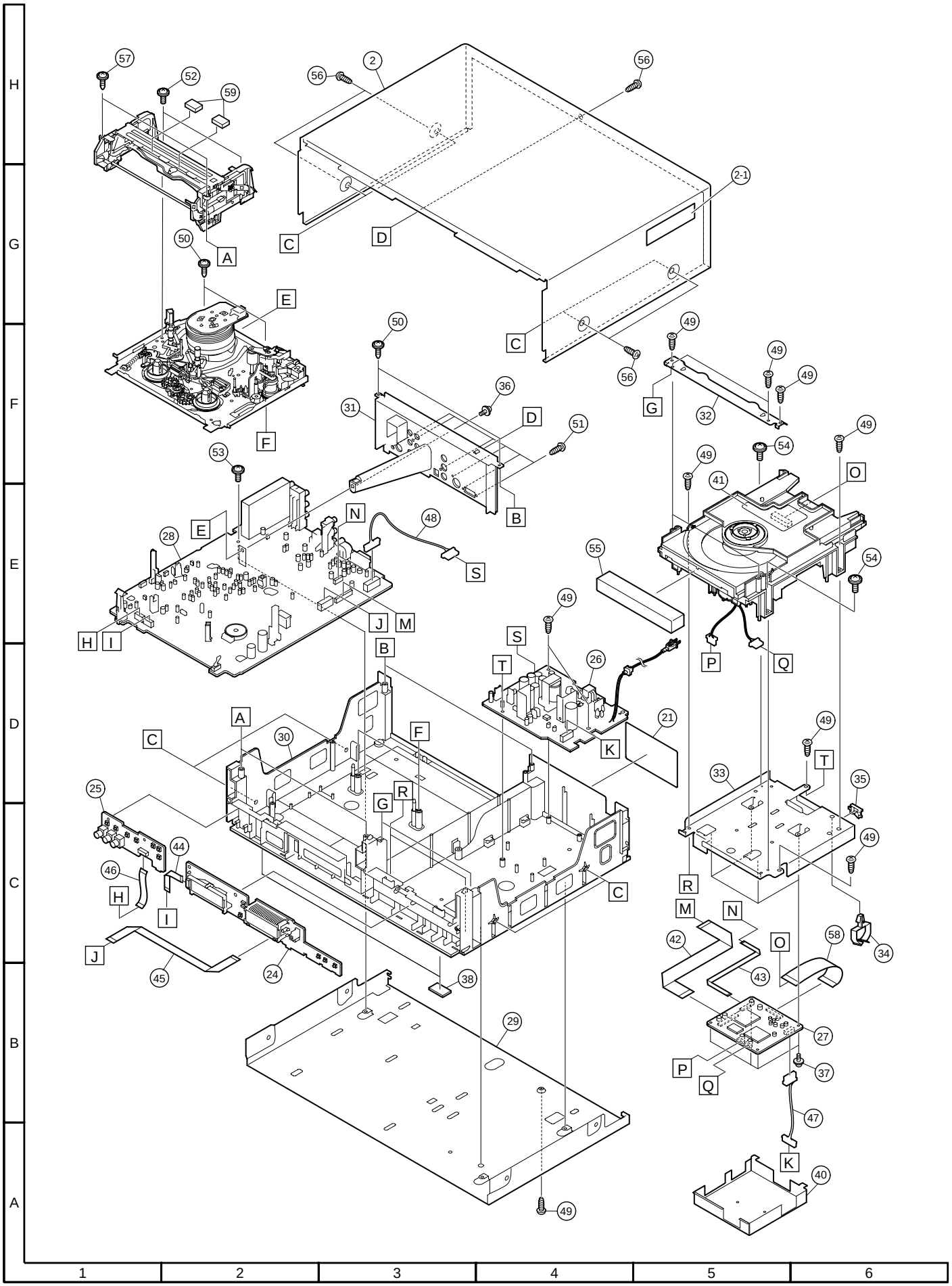


CASSETTE HOUSING CONTROL EXPLODED VIEW

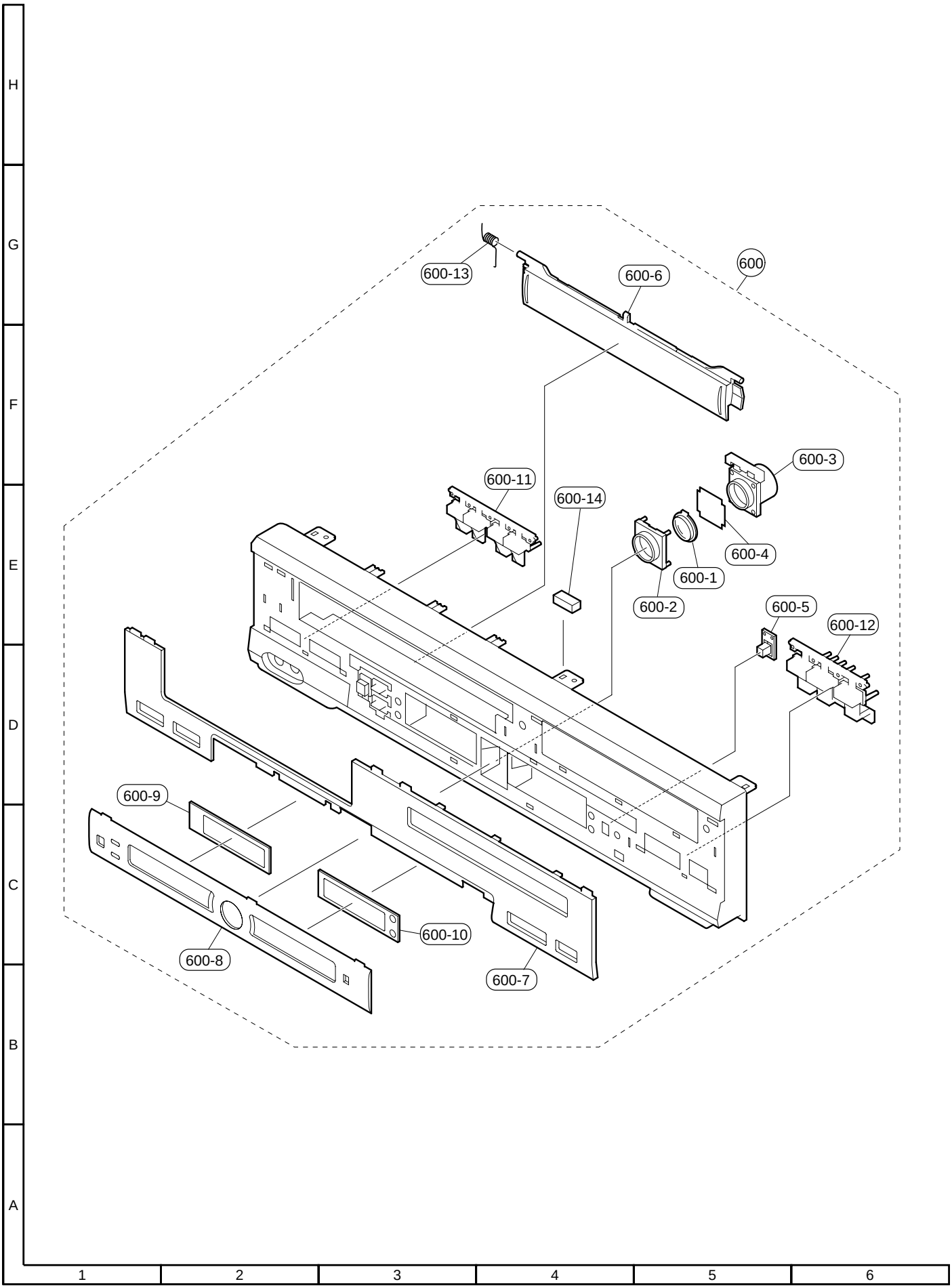
Grease



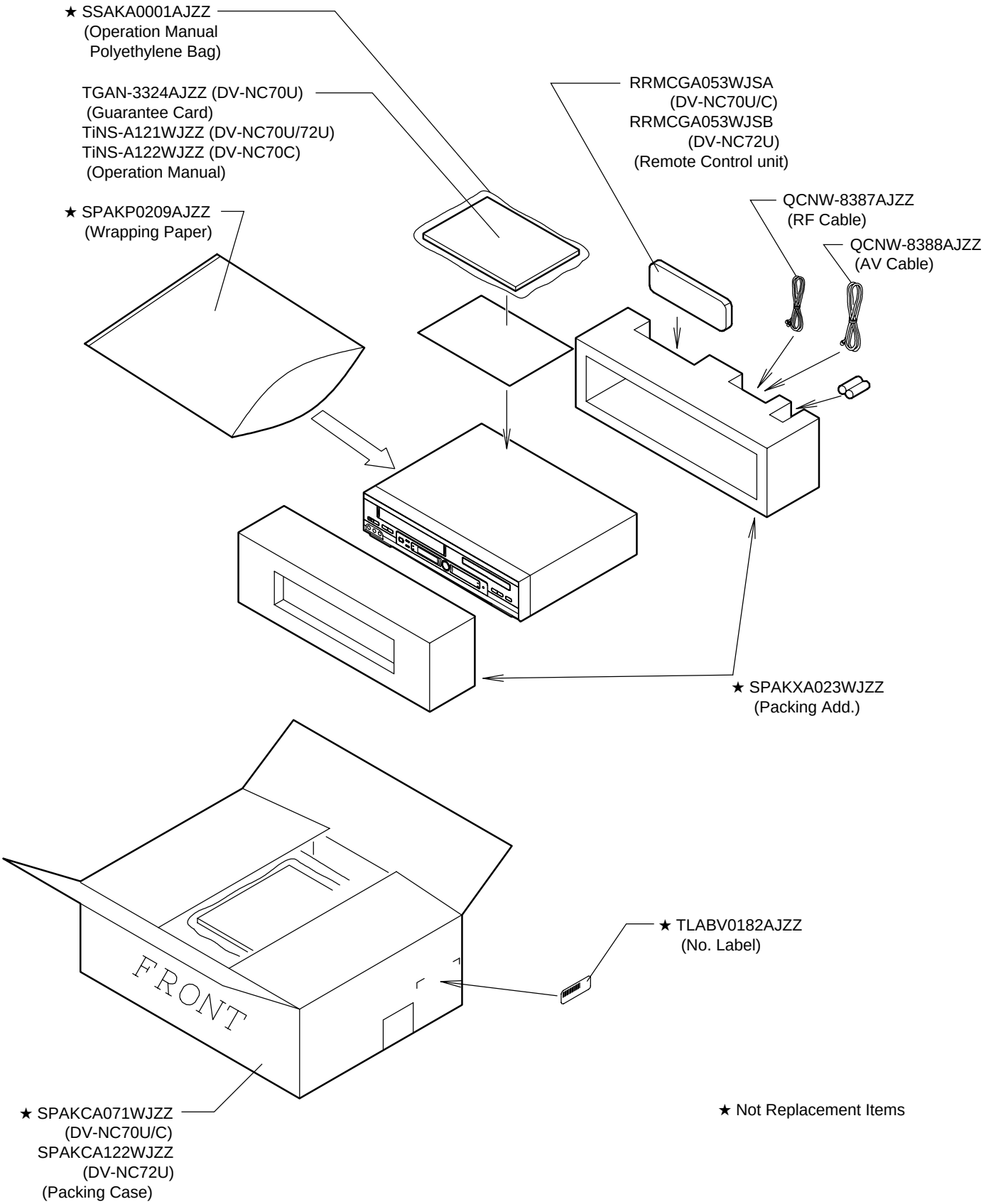
CABINET EXPLODED VIEW



FRONT PANEL EXPLODED VIEW



15. PACKING OF THE SET



★ Not Replacement Items

SHARP

COPYRIGHT © 2002 BY SHARP CORPORATION

ALL RIGHTS RESERVED.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted in
any form or by any means, electronic, mechanical,
photocopying, recording, or otherwise, without
prior written permission of the publisher.

ⒹSEM ⓅSMM TQ1330-S
Jul. 2002 Printed in JAPAN
SA. DS (NR)

SHARP CORPORATION
AV Systems Group
Quality & Reliability Control Center
Yaita, Tochigi 329-2193, Japan